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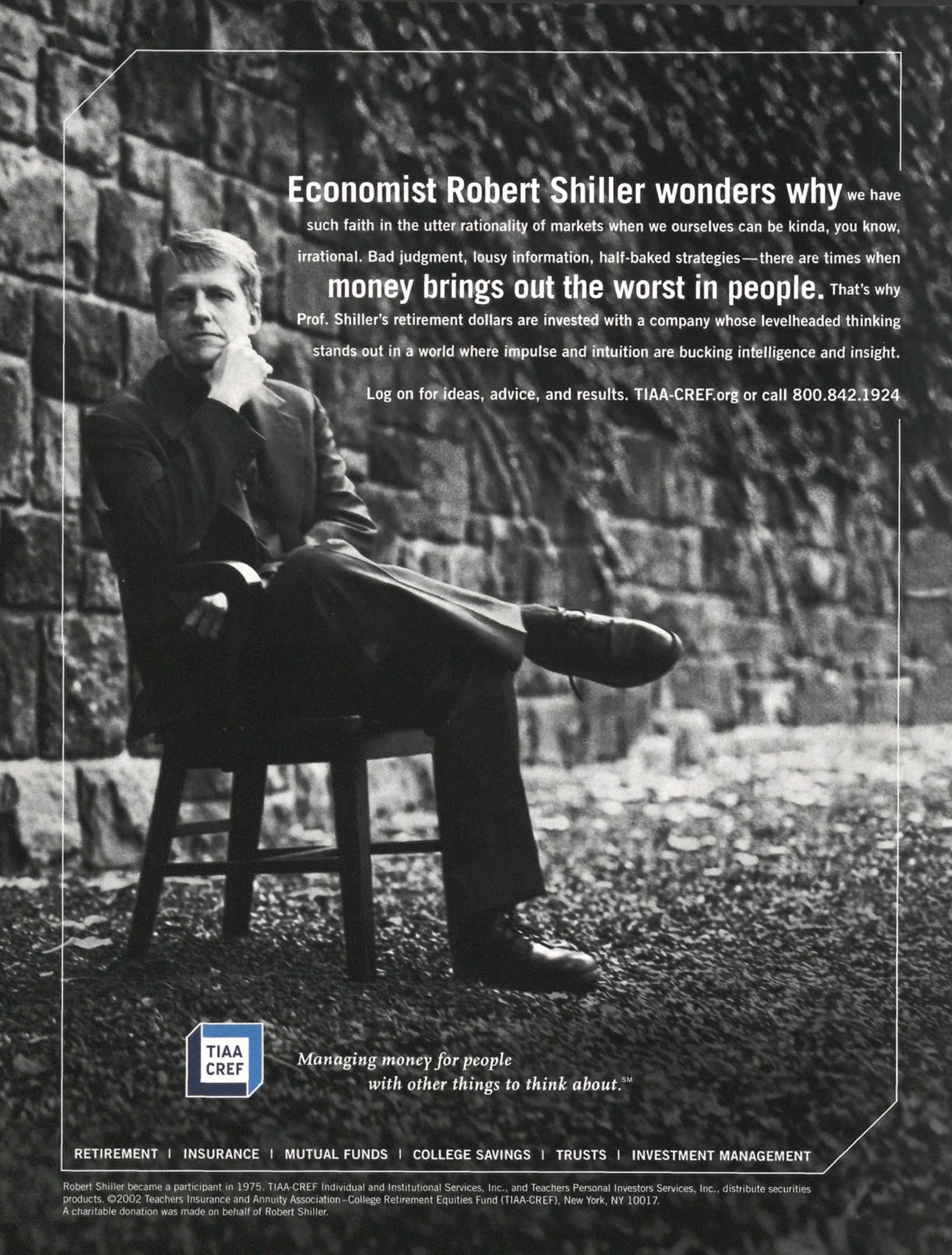
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Smithsonian
MAY 2003 VOLUME 34, NUMBER 2

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"THE FIRST ASCENT of Mount Everest contributed nothing new to our knowledge of the world, let alone the universe. Yet almost at once, the moment the news of the ascent reached the world at large, it entered the realm of allegory."
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ON THE COVER The Cuban wildlands teem with animal life, such as these greater flamingos dueling in the brackish water of Zapata Swamp. *PHOTOGRAPH BY LYNDA RICHARDSON.*

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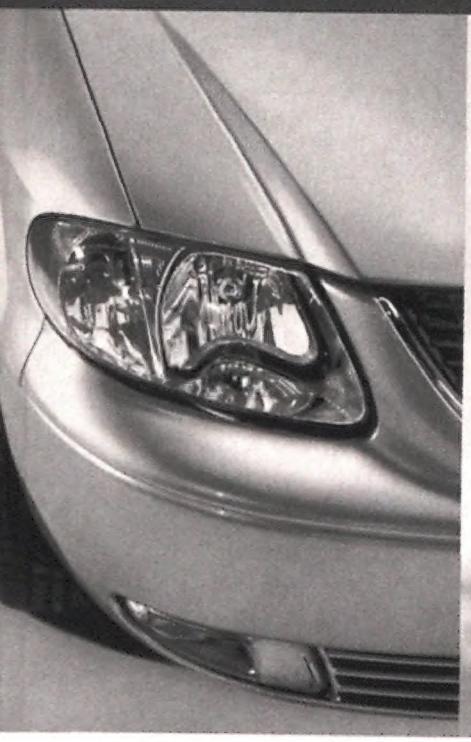

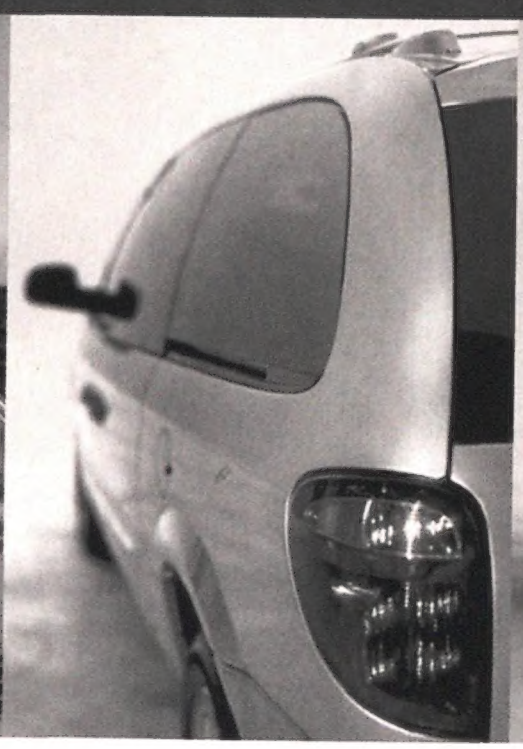

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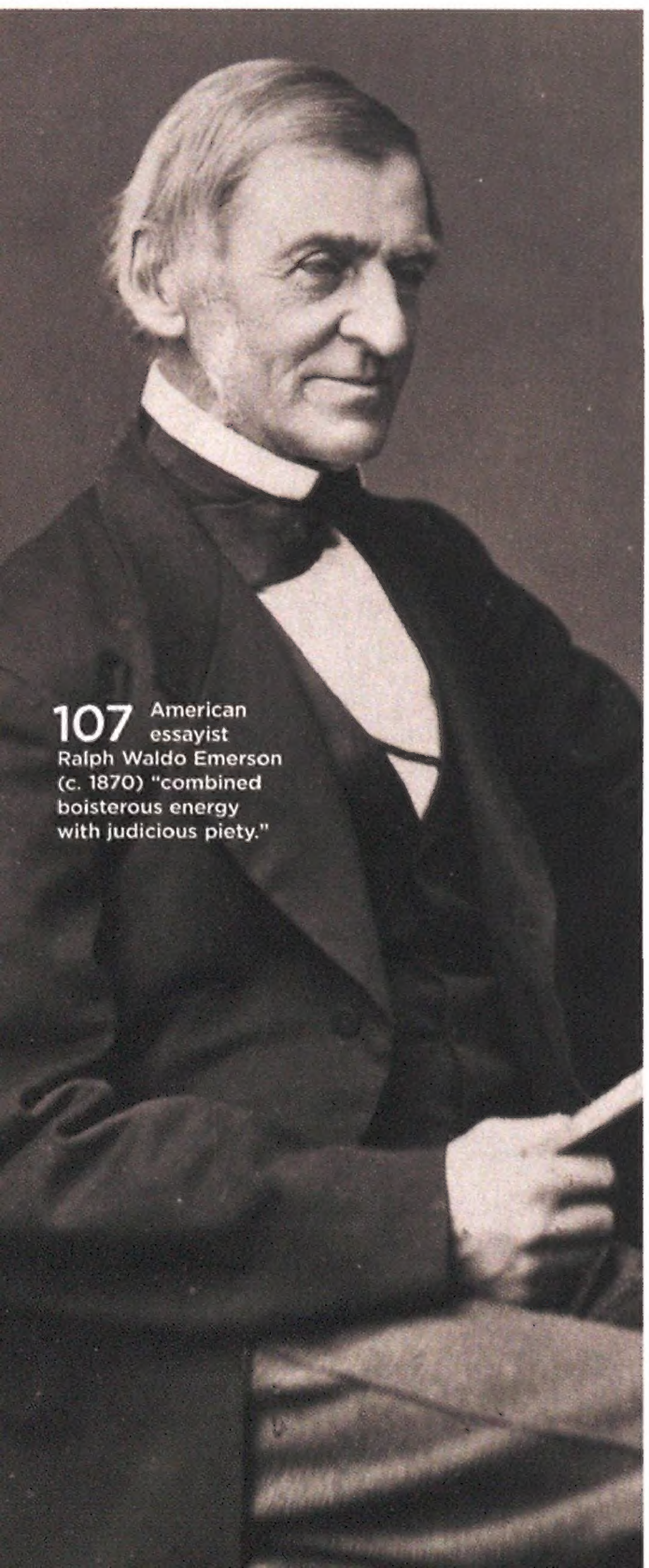

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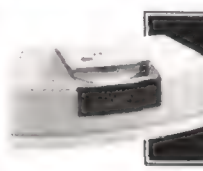

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YES DISASTROUS TIMES

Our unusually far-flung correspondents report

BY CAREY WINFREY

OF THE MANY PROTAGONISTS in modern Iraq's tumultuous history, Jonathan Kandell met only one, Dame Freya Stark. But at the time, says Kandell, who wrote our story about Iraq's tortured recent history ("Iraq's Unruly Century," p. 44), he was unaware of Stark's close connection to historic events. "It was 1991 and she was 98 years old when we were introduced over a lunch in Asolo, the small northern Italian village where she lived after her Baghdad sojourns," he says. When Kandell, on assignment for a travel magazine, told Stark he was writing a piece about Italy's Veneto region, she allowed that she had written a few books that might qualify as travel writing herself. That was wry understatement: Stark's dispatches from Baghdad in the 1920s and '30s are invaluable accounts of the changing nation. "Her *Baghdad Sketches* offer some of the most vivid depictions of Iraq between the world wars," Kandell says approvingly. We would like to think that Stark, who died in 1993, would approve of Kandell's report as well.

Freya Stark in 1940.

IMMEDIATELY AFTER COVERING Edmund Hillary's conquest of Everest in 1953 for the London *Times*, Jan Morris—then James Morris—was approached by an advertising agency asking if he would appear in an advertisement for the brand of typewriter he'd used. "The highest typewriter on earth or something of that sort," says Morris, whose elegant memoir of the momentous ascent, "Finally, the Top of the World," begins on p. 54. "I was, of course, much attracted by the idea—why not?—but since the *Times* was written anonymously in those days and was rigidly devoted to protocol, I thought it might be wiser to ask permission first." So Morris sent a cable asking if it would be "disastrous" to his career to accept the offer. "And there came back the following very *Timesy* reply: YES DISASTROUS TIMES."

Linden in Cuba: Trafficking in freedom.

CUBA, says Eugene Linden, may be one of the easiest countries to drive in. "There is no traffic anywhere, anytime," says Linden, who wrote our cover story ("The Nature of Cuba," p. 94). "Perhaps Cuba will become a destination for 'traffic tourists' who want the experience of freedom on the roads." More likely, it will become a destination for ecotourists, naturalists and anyone who enjoys wildlife and flora in a virtually unspoiled environment. Adds Linden, who has written four books on animal behavior, including *The Octopus and the Orangutan: More True Tales of Animal Intrigue, Intelligence, and Ingenuity*: "Over the last ten years, a series of accidents and coincidences—and significant planning—have preserved vast areas of Cuban habitat." ○

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Torn Asunder

Enslaved Africans endured
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"MIDDLE PASSAGE." Could words be blander? They suggest a way out, reasonable progress, a moderate course. And yet the blandness conceals an infamy, for Middle Passage was the name given the forced journey across the Atlantic of millions of Africans who were kidnapped from their homes and carried into slavery in the Americas. This transferal of human cargo was one side of a sprawling triangle that described the shape of the transatlantic slave trade: traders first made their way from Europe to the west coast of Africa, where they often bartered items such as guns, brandy, linens and gold for human beings; in the middle passage, the Africans were conveyed across the sea; then, the goods produced by the slaves' labor in the Americas—sugar, tobacco, cotton, cocoa, mahogany—were carried to markets in Europe. The process lends itself to a simple diagram in history books, but what horror lies behind that abstract rendering!

The reality is made unforgettably explicit in "Captive Passage: The Transatlantic Slave Trade and the Making of the Americas," an exhibition that can be seen through August at the Smithsonian's Anacostia Museum and Center for African American History and Culture. The exhibition, which originated at the Mariners Museum in Newport News, Virginia, uses objects, documents, film and audio installations to help visitors comprehend, however imperfectly, the scale of the inhumanity at the core of four centuries of an economic, political and social transaction. The awful business implicated many nations besides America (Great Britain, France, Spain and the Netherlands, among them), and indeed the vast majority of enslaved Africans were taken not to territory that is now the United States but to South America and the Caribbean.

The objects on exhibit range from the genteel (a porcelain mug espousing the abolitionist cause) to the brutal (a collar with triangular-shaped halves that fit around a slave's neck and contained rattles whose sound would frustrate escape). And there is this: a seaman's roughly made wooden trunk, perhaps four feet long, its exterior without significant decoration. But on the inside lid is a crudely drawn image, primitive enough to be a child's rendering, that the seaman would have seen each time he opened the trunk: a near-naked enslaved African, his wrists chained, stands beside a respectably dressed man with a small whip in one hand and, in the other, a leash attached to a collar around the slave's neck . The ghastly depiction serves as ornament.

An 1800s seaman's chest displays the true infamy of the so-called Middle Passage.

"Captive Passage" is well suited to a museum, situated in the largely African-American community of Anacostia in southeast Washington, four miles from the National Mall. The museum's educational and outreach programs have influenced the evolution of other African-American museums across the country, even as its collections have invited traditional scholarly-based exploration. As a follow-up to "Captive Passage," for example, the museum will develop an exhibition on slave adornment and textile traditions, celebrating the survival of creativity and personal expression in conditions so hostile to them.

In 1986, the museum, which first opened in 1967, moved to a building in Fort Stanton Park in Anacostia. It was refurbished last year, although "refurbished" does not do justice to the scale of the transformation. The museum will always be of the community. But the borders of its mission are not drawn there, nor can they be, when so many of the resources needed to tell the African-American story in nuanced detail are most likely hidden away in attics and trunks throughout America, their owners often unaware of the historical riches they possess. The museum is situated on a hillside in the park, and that's only fitting, for from its elevation it looks out to the community and casts its gaze much farther still.

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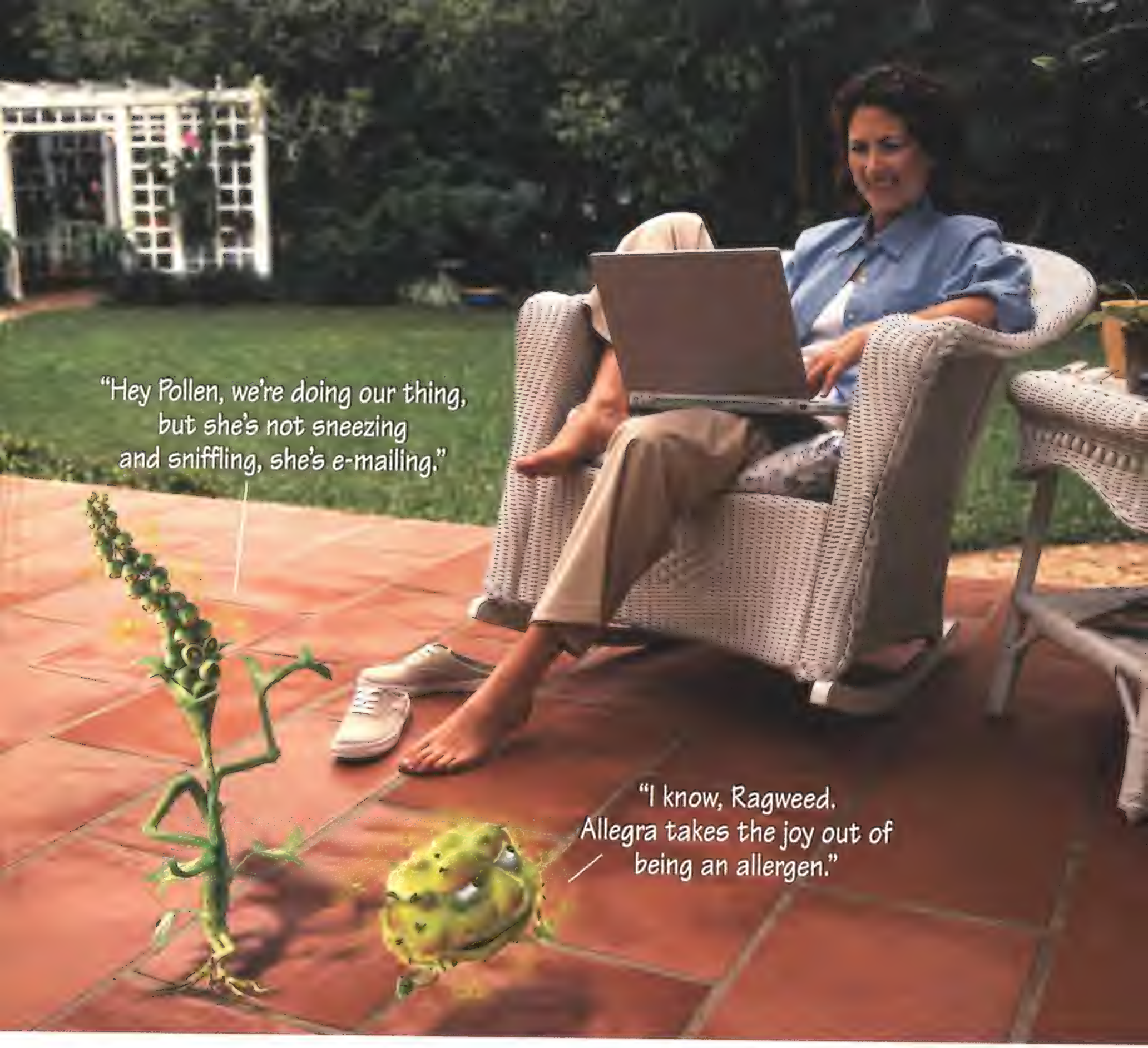
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INDICATIONS AND USAGE

Seasonal Allergic Rhinitis

ALLEGRA is indicated for the relief of symptoms associated with seasonal allergic rhinitis in adults and children 6 years of age and older. Symptoms treated effectively were sneezing, rhinorrhea, itchy nose/palate/throat, itchy/watery/red eyes.

Chronic Idiopathic Urticaria

ALLEGRA is indicated for treatment of uncomplicated skin manifestations of chronic idiopathic urticaria in adults and children 6 years of age and older. It significantly reduces pruritus and the number of wheals.

CONTRAINDICATIONS

ALLEGRA is contraindicated in patients with known hypersensitivity to any of its ingredients.

PRECAUTIONS

Drug Interaction with Erythromycin and Ketoconazole

Fexofenadine hydrochloride has been shown to exhibit minimal (ca 5%) metabolism. However, co-administration of fexofenadine hydrochloride with ketoconazole and erythromycin led to increased plasma levels of fexofenadine hydrochloride. Fexofenadine hydrochloride had no effect on the pharmacokinetics of erythromycin and ketoconazole. In two separate studies, fexofenadine hydrochloride 120 mg twice daily (two times the recommended twice daily dose) was co-administered with erythromycin 500 mg every 8 hours or ketoconazole 400 mg once daily under steady state conditions to normal, healthy volunteers (n=24, each study). No differences in adverse events or QT_c interval were observed when patients were administered fexofenadine hydrochloride alone or in combination with erythromycin or ketoconazole. The findings of these studies are summarized in the following table.

Effects on steady-state fexofenadine hydrochloride pharmacokinetics after 7 days of co-administration with fexofenadine hydrochloride 120 mg every 12 hours (two times the recommended twice daily dose) in normal volunteers (n=24)

Concomitant Drug	$C_{max ss}$ *(Peak plasma concentration)*	$AUC_{TAU,ss}$ *(Extent of systemic exposure)*
Erythromycin (500 mg every 8 hrs)	+82%	+109%
Ketoconazole (400 mg once daily)	+135%	+164%

The changes in plasma levels were within the range of plasma levels achieved in adequate and well-controlled clinical trials.

The mechanism of these interactions has been evaluated in *in vitro*, *in situ*, and *in vivo* animal models. These studies indicate that ketoconazole or erythromycin co-administration enhances fexofenadine gastrointestinal absorption. *In vivo* animal studies also suggest that in addition to increasing absorption, ketoconazole decreases fexofenadine hydrochloride gastrointestinal secretion, while erythromycin may also decrease biliary excretion.

Drug Interactions with Antacids

Administration of 120 mg of fexofenadine hydrochloride (2 x 60 mg capsule) within 15 minutes of an aluminum and magnesium containing antacid (Maalox®) decreased fexofenadine AUC by 41% and C_{max} by 43%. ALLEGRA should not be taken closely in time with aluminum and magnesium containing antacids.

Carcinogenesis, Mutagenesis, Impairment of Fertility

The carcinogenic potential and reproductive toxicity of fexofenadine hydrochloride were assessed using terfenadine studies with adequate fexofenadine hydrochloride exposure (based on plasma area-under-the-concentration vs. time [AUC] values). No evidence of carcinogenicity was observed in an 18-month study in mice and in a 24-month study in rats at oral doses up to 150 mg/kg of terfenadine (which led to fexofenadine exposures that were respectively approximately 3 and 5 times the exposure from the maximum recommended daily oral dose of fexofenadine hydrochloride in adults and children).

In vitro (Bacterial Reverse Mutation, CHO/HGPRT Forward Mutation, and Rat Lymphocyte Chromosomal Aberration assays) and *in vivo* (Mouse Bone Marrow Micronucleus assay) tests, fexofenadine hydrochloride revealed no evidence of mutagenicity.

In rat fertility studies, dose-related reductions in implants and increases in postimplantation losses were observed at an oral dose of 150 mg/kg of terfenadine (which led to fexofenadine hydrochloride exposures that were approximately 3 times the exposure of the maximum recommended daily oral dose of fexofenadine hydrochloride in adults).

Pregnancy

Teratogenic Effects: Category C. There was no evidence of teratogenicity in rats or rabbits at oral doses of terfenadine up to 300 mg/kg (which led to fexofenadine exposures that were approximately 4 and 31 times, respectively, the exposure from the maximum recommended daily oral dose of fexofenadine in adults).

There are no adequate and well controlled studies in pregnant women. Fexofenadine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nonteratogenic Effects. Dose-related decreases in pup weight gain and survival were observed in rats exposed to an oral dose of 150 mg/kg of terfenadine (approximately 3 times the maximum recommended daily oral dose of fexofenadine hydrochloride in adults based on comparison of fexofenadine hydrochloride AUCs).

Nursing Mothers

There are no adequate and well-controlled studies in women during lactation. Because many drugs are excreted in human milk, caution should be exercised when fexofenadine hydrochloride is administered to a nursing woman.

Pediatric Use

The recommended dose in patients 6 to 11 years of age is based on cross-study comparison of the pharmacokinetics of ALLEGRA in adults and pediatric patients and on the safety profile of fexofenadine hydrochloride in both adult and pediatric patients at doses equal to or higher than the recommended doses.

The safety of ALLEGRA tablets at a dose of 30 mg twice daily has been demonstrated in 438 pediatric patients 6 to 11 years of age in two placebo-controlled 2-week seasonal allergic rhinitis trials. The safety of ALLEGRA for the treatment of chronic idiopathic urticaria in patients 6 to 11 years of age is based on cross-study comparison of the pharmacokinetics of ALLEGRA in adult and pediatric patients and on the safety profile of fexofenadine in both adult and pediatric patients at doses equal to or higher than the recommended dose.

The effectiveness of ALLEGRA for the treatment of seasonal allergic rhinitis in patients 6 to 11 years of age was demonstrated in one trial (n=411) in which ALLEGRA tablets 30 mg twice daily significantly reduced total symptom scores compared to placebo, along with extrapolation of demonstrated efficacy in patients ages 12 years and above, and the pharmacokinetic comparisons in adults and children. The effectiveness of ALLEGRA for the treatment of chronic idiopathic urticaria in patients 6 to 11 years of age is based on an extrapolation of the demonstrated efficacy of ALLEGRA in adults with this condition and the likelihood that the disease course, pathophysiology and the drug's effect are substantially similar in children to that of adult patients. The safety and effectiveness of ALLEGRA in pediatric patients under 6 years of age have not been established.

Geriatric Use

Clinical studies of ALLEGRA tablets and capsules did not include sufficient numbers of subjects aged 65 years and over to determine whether this population responds differently from younger patients. Other reported clinical experience has not identified differences in responses between the geriatric and younger patients. This drug is known to be substantially excreted by the kidney, and the risk of toxic reactions to this drug may be greater in patients with impaired renal function. Because elderly patients are more likely to have decreased renal function, care should be taken in dose selection, and may be useful to monitor renal function. (See CLINICAL PHARMACOLOGY.)

ADVERSE REACTIONS

Seasonal Allergic Rhinitis

Adults. In placebo-controlled seasonal allergic rhinitis clinical trials in patients 12 years of age and older, which included 2461 patients receiving fexofenadine hydrochloride capsules at doses of 20 mg to 240 mg twice daily, adverse events were similar in fexofenadine hydrochloride and placebo-treated patients. All adverse events that were reported by greater than 1% of patients who received the recommended daily dose of fexofenadine hydrochloride (60 mg capsules twice daily), and that were more common with fexofenadine hydrochloride than placebo, are listed in Table 1.

In a placebo-controlled clinical study in the United States, which included 570 patients aged 12 years and older receiving fexofenadine hydrochloride tablets at doses of 120 or 180 mg once daily, adverse events were similar in fexofenadine hydrochloride and placebo-treated patients. Table 1 also lists adverse experiences that were reported by greater than 2% of patients treated with fexofenadine hydrochloride tablets at doses of 180 mg once daily and that were more common with fexofenadine hydrochloride than placebo.

The incidence of adverse events, including drowsiness, was not dose-related and was similar across subgroups defined by age, gender, and race.

Table 1

Adverse experiences in patients ages 12 years and older reported in placebo-controlled seasonal allergic rhinitis clinical trials in the United States

Twice daily dosing with fexofenadine capsules at rates of greater than 1%

Adverse experience	*Fexofenadine 60 mg Twice Daily (n=679)*	*Placebo Twice Daily (n=671)*
Viral Infection (cold, flu)	2.5%	1.5%
Nausea	1.6%	1.5%
Dysmenorrhea	1.5%	0.3%
Drowsiness	1.3%	0.9%
Dyspepsia	1.3%	0.6%
Fatigue	1.3%	0.9%

Once daily dosing with fexofenadine hydrochloride tablets at rates of greater than 2%

Adverse experience	*Fexofenadine 180 mg once daily (n=284)*	*Placebo (n=293)*
Headache	10.6%	7.5%
Upper Respiratory Tract Infection	3.2%	3.1%
Back Pain	2.8%	1.4%

The frequency and magnitude of laboratory abnormalities were similar in fexofenadine hydrochloride and placebo-treated patients.

Pediatric. Table 2 lists adverse experiences in patients aged 6 to 11 years of age which were reported by greater than 2% of patients treated with fexofenadine hydrochloride tablets at a dose of 30 mg twice daily in placebo-controlled seasonal allergic rhinitis studies in the United States and Canada that were more common with fexofenadine hydrochloride than placebo.

Table 2

Adverse experiences reported in placebo-controlled seasonal allergic rhinitis studies in pediatric patients ages 6 to 11 in the United States and Canada at rates of greater than 2%

Adverse experience	*Fexofenadine 30 mg twice daily (n=209)*	*Placebo (n=229)*
Headache	7.2%	6.6%
Accidental Injury	2.9%	1.3%
Coughing	3.8%	1.3%
Fever	2.4%	0.9%
Pain	2.4%	0.4%
Otitis Media	2.4%	0.0%
Upper Respiratory Tract Infection	4.3%	1.7%

Chronic Idiopathic Urticaria

Adverse events reported by patients 12 years of age and older in placebo-controlled chronic idiopathic urticaria studies were similar to those reported in placebo-controlled seasonal allergic rhinitis studies. In placebo-controlled chronic idiopathic urticaria clinical trials, which included 726 patients 12 years of age and older receiving fexofenadine hydrochloride tablets at doses of 20 to 240 mg twice daily, adverse events were similar in fexofenadine hydrochloride and placebo-treated patients. Table 3 lists adverse experiences in patients aged 12 years and older which were reported by greater than 2% of patients treated with fexofenadine hydrochloride 60 mg tablets twice daily in controlled clinical studies in the United States and Canada and that were more common with fexofenadine hydrochloride than placebo. The safety of fexofenadine hydrochloride in the treatment of chronic idiopathic urticaria in pediatric patients 6 to 11 years of age is based on the safety profile of fexofenadine hydrochloride in adults and adolescent patients at doses equal to or higher than the recommended dose (see Pediatric Use).

Table 3

Adverse experiences reported in patients 12 years and older in placebo-controlled chronic idiopathic urticaria studies in the United States and Canada at rates of greater than 2%

Adverse experience	*Fexofenadine 60 mg twice daily (n=186)*	*Placebo (n=178)*
Back Pain	2.2%	1.1%
Sinusitis	2.2%	1.1%
Dizziness	2.2%	0.6%
Drowsiness	2.2%	0.0%

Events that have been reported during controlled clinical trials involving seasonal allergic rhinitis and chronic idiopathic urticaria patients with incidences less than 1% and similar to placebo and have been rarely reported during postmarketing surveillance include insomnia, nervousness, and sleep disorders or paroniria. In rare cases, rash, urticaria, pruritus and hypersensitivity reactions with manifestations such as angioedema, chest tightness, dyspnea, flushing and systemic anaphylaxis have been reported.

OVERDOSAGE

Reports of fexofenadine hydrochloride overdose have been infrequent and contain limited information. However, dizziness, drowsiness, and dry mouth have been reported. Single doses of fexofenadine hydrochloride up to 800 mg (six normal volunteers at this dose level), and doses up to 690 mg twice daily for 1 month (three normal volunteers at this dose level) or 240 mg once daily for 1 year (234 normal volunteers at this dose level) were administered without the development of clinically significant adverse events as compared to placebo.

In the event of overdose, consider standard measures to remove any unabsorbed drug. Symptomatic and supportive treatment is recommended.

Hemodialysis did not effectively remove fexofenadine hydrochloride from blood (1.7% removed) following terfenadine administration.

No deaths occurred at oral doses of fexofenadine hydrochloride up to 5000 mg/kg in mice (110 times the maximum recommended daily oral dose in adults and 200 times the maximum recommended daily oral dose in children based on mg/m^2) and up to 5000 mg/kg in rats (230 times the maximum recommended daily oral dose in adults and 400 times the maximum recommended daily oral dose in children based on mg/m^2). Additionally, no clinical signs of toxicity or gross pathological findings were observed. In dogs, no evidence of toxicity was observed at oral doses up to 2000 mg/kg (300 times the maximum recommended daily oral dose in adults and 530 times the maximum recommended daily oral dose in children based on mg/m^2).

DOSAGE AND ADMINISTRATION

Seasonal Allergic Rhinitis

Adults and Children 12 Years and Older. The recommended dose of ALLEGRA is 60 mg twice daily, or 180 mg once daily. A dose of 60 mg once daily is recommended as the starting dose in patients with decreased renal function (see CLINICAL PHARMACOLOGY).

Children 6 to 11 Years. The recommended dose of ALLEGRA is 30 mg twice daily. A dose of 30 mg once daily is recommended as the starting dose in pediatric patients with decreased renal function (see CLINICAL PHARMACOLOGY).

Chronic Idiopathic Urticaria

Adults and Children 12 Years and Older. The recommended dose of ALLEGRA is 60 mg twice daily. A dose of 60 mg once daily is recommended as the starting dose in patients with decreased renal function (see CLINICAL PHARMACOLOGY).

Children 6 to 11 Years. The recommended dose of ALLEGRA is 30 mg twice daily. A dose of 30 mg once daily is recommended as the starting dose in pediatric patients with decreased renal function (see CLINICAL PHARMACOLOGY).

Please see product circular for full prescribing information.

Rx only

Brief Summary of Prescribing Information as of January 2003
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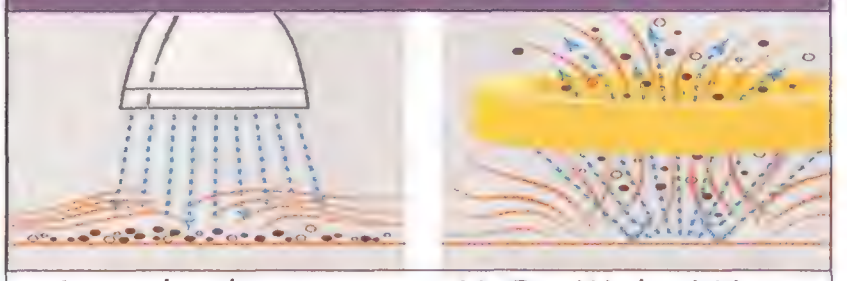

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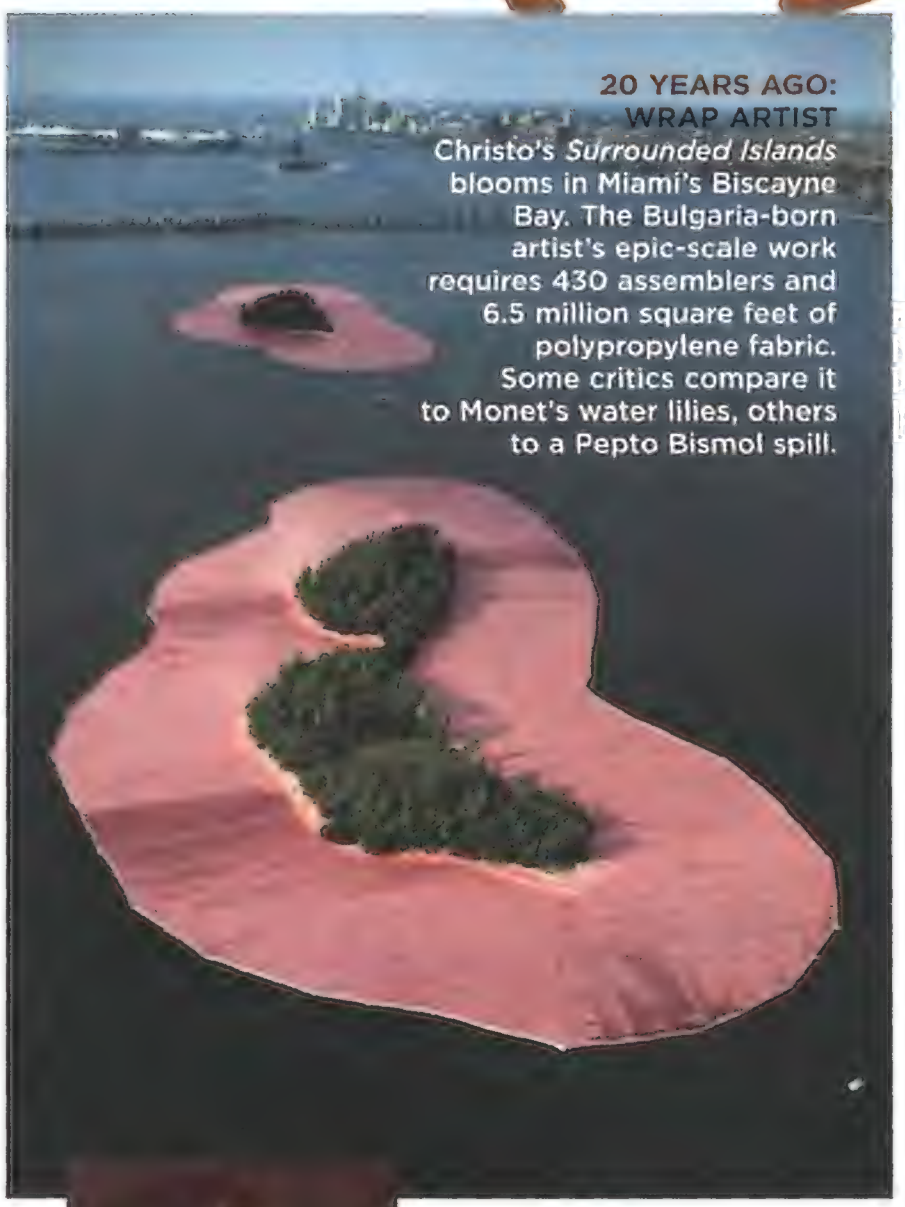
THIS MONTH IN HISTORY

MAY ANNIVERSARIES—MOMENTOUS OR MERELY MEMORABLE

100 YEARS AGO:
HOPE SPRINGS ETERNAL
Born May 29, 1903, in England, Leslie Townes "Bob" Hope moves to the U.S. at age 4. The vaudevillian turned "master of the one-liner" stars in more than 50 films, including seven "Road" pictures with Bing Crosby and Dorothy Lamour. In 1997, Congress, saluting his five decades of USO shows, makes him the first honorary veteran.

120 YEARS AGO:
STAIRWAY TO BROOKLYN
President Chester Arthur leads 150,300 pedestrians from Manhattan across J.A. Roebling's Brooklyn Bridge opening day, May 24, 1883, some 13 years after construction began. (It will be the world's longest span until 1890.) "The jam was terrible," the *New York Times* reports. Still is: 96,000 cars cross it every day.



20 YEARS AGO:
WRAP ARTIST
Christo's *Surrounded Islands* blooms in Miami's Biscayne Bay. The Bulgaria-born artist's epic-scale work requires 430 assemblers and 6.5 million square feet of polypropylene fabric. Some critics compare it to Monet's water lilies, others to a Pepto Bismol spill.

30 YEARS AGO:
LOFTY THINKING
Skylab, America's first space station, is launched May 14, 1973. Orbiting 270 miles above Earth, it's home to three astronaut crews over nine months. They study spiders and solar flares, but no test is more crucial than whether people can hack it in space for months at a time. They can. Skylab falls to Earth in 1979.

50 YEARS AGO:
SUPERSONIC
On May 18, 1953, Jacqueline Cochran (in 1937) puts a F-86 Sabre jet into a dive from 45,000 feet to become the first woman to break the sound barrier. At her death at age 70 in 1980, Cochran, a former beautician, holds more speed, altitude and distance records than any other pilot. ○

—ALISON McLEAN

50 YEARS AGO:
NATIVE SON
The first of four novels by Harlem-born James Baldwin, *Go Tell It on the Mountain*, is published. It depicts a young man's struggles with his stepfather, the church and racism. The "most important novel written about the American Negro," one critic says. Baldwin dies in 1987 at 63.

CLOCKWISE FROM TOP LEFT: JACK KOFFMAN / TIMEPIX; E.O. HOPPÉ / CORBIS; NASA / CORBIS; BETTMANN / CORBIS; TED STRESHINSKY / CORBIS; BETTMANN / CORBIS

Readers respond to the March issue:

HOT TRANSCRIPT

I COMMEND you for publishing "The Hunt for Hot Stuff," about the efforts of international experts to track down abandoned radioactive devices in the former Soviet Union. Last spring, the U.S. Senate Committee on Foreign Relations held a public hearing on the threat of radiological terrorism. We learned that even the worst credible radiological attack would kill few people. However, it could cause significant economic damage by forcing the condemnation of large swaths of property. For a transcript of the hearing, call 202-224-3953 or see Committee Prints, Hearings, and Publications at http://foreign.senate.gov/Democratic/briefing/index.html.

SENATOR JOSEPH R. BIDEN, JR.
COMMITTEE ON FOREIGN RELATIONS

CULTURED PEARL

I BET THE JOKE behind the price tag dangling from Minnie Pearl's hat ("How—*deeeee!*") has been forgotten. In the days when no woman would be seen in public without a hat, many would purchase a new one for a special occasion, wear it and then return it. Milliners, to prevent this petty larceny, would put the price tag on the outside. Minnie Pearl was keeping her options open.

CHARLES F. NELSEN
OAKHURST, CALIFORNIA

ROCK OF AGES

AS AN AVID ROCK CLIMBER for more than 25 years, I read "Whose Rock Is It Anyway?" with special interest. I haven't climbed at Cave Rock in Nevada, but I have climbed at Devils Tower in Wyoming, which is sacred to the Lakota. For me, climbing is a spiritual

*Taurus SEL interior shown with optional leather-trimmed seating and woodgrain package.

experience that places me in a very intimate connection with the rock. The native peoples do not have a monopoly on how to experience the spirituality of these holy places.

JOHN SIMON
NEW BRIGHTON, MINNESOTA

I AM OFFENDED by the callous lack of respect shown by the climbers' lawyer. How would he like it if a group of "church climbers" invaded his grandfather's church during Sunday service to hang from the rafters for the sport of it? There are many rocks to climb. We need to respect the few holy places we have left.

RAMONA E. EDWARDS
OKLAHOMA CITY, OKLAHOMA

VIETNAM ENDGAME

ELIZABETH DREW'S review ("Exiting Vietnam") of Henry Kissinger's new book was mainly a partisan political editorial and revisionist view of the realities. Lyndon Johnson and Robert McNamara were solely responsible for the buildup of the Vietnam War. Nixon and Kissinger, realizing the hopelessness of the situation inherited from Johnson, reduced our commitments and brought the troops home. They should be acknowledged, not chastised, for ending the war.

MICHAEL E. KANE
PERRY, FLORIDA

DREW is to be highly commended for her insightful dissection of Kissinger's self-serving memoir of his role in prosecuting and prolonging the Vietnam War. The review, coming just before the U.S.-led attack on Iraq, is most timely in recalling a period of tragic folly on the part of American political and military leadership, which led to great animosity toward our nation from much of the rest of the world.

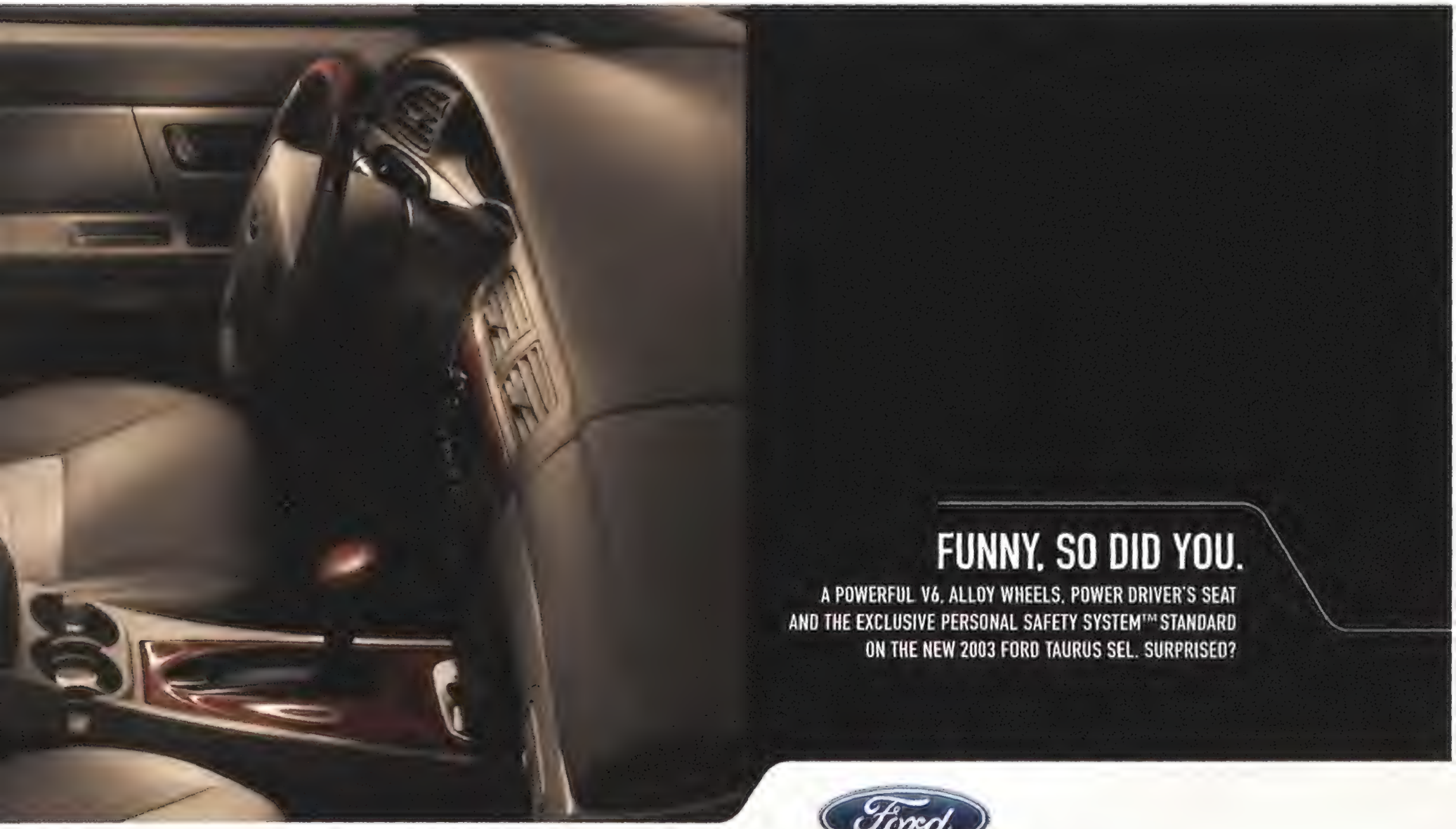
DALE MORROW
ROHNERT PARK, CALIFORNIA

FAR OUT STAR

THE MAINE Solar System Model ("Caution, Planets Ahead") enables visitors to visualize the distances between the planets and the vastness of our solar system. If one were to extend the model to include the nearest star to our solar system based on the scale used in the model, where the Earth is a mile from the Sun, our nearest neighboring star, in the Alpha Centauri system, would be about 270,000 miles away, not much more than the distance to the Moon.

JOHN SCIESZKA
REIDSVILLE, GEORGIA

Send letters to LettersEd@simag.si.edu or to **Letters, Smithsonian, MRC 951, P.O. Box 37012, Washington, D.C. 20013.** Please include a telephone number and address. Letters may be edited. Because of the high volume of mail we receive, we cannot guarantee a response to all letters. Send queries about the Smithsonian Institution to info@si.edu or to VIARC, Public Inquiry Mail Service, P.O. Box 37012, Washington, D.C. 20013.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Into the Breach

David Douglas Duncan's Life *photographs captured the courage and anguish of marines in Korea, bringing home the gravity of war* – BY TERENCE MONMANEY

"It was a pretty bad day," Duncan recalls of his classic 1950 portrait of Capt. "Ike" Fenton.

DAVID DOUGLAS DUNCAN / PHOTOGRAPHY COLLECTION / HRHRC / UNIVERSITY OF TEXAS, AUSTIN

IN HILLY TERRAIN near Puson, South Korea, Capt. F. I. "Ike" Fenton of the U.S. Marines hears more bad news. It is August 1950, and his company has been fighting all night. More than half of his 190 men are wounded or killed. They are out of ammunition. He has lost radio contact with his superiors. And now, he is told, his first sergeant is mortally wounded.

Click. David Douglas Duncan takes Fenton's picture. Duncan, a former marine, is on assignment for *Life* magazine. He gets as close to the action as possible, trying to show, he says, "what a man endures when his country decides to go to war." Duncan's photographs are among the best known of the war, and a few, including that of Fenton, are ranked among the top American combat photographs ever.

U.S. Marines had been in Korea barely two weeks when the

Duncan's photos capture the fighting, but mostly the emotions of the marines.

Fenton saw Duncan's Korea photographs just weeks after they appeared. In 1999, Duncan (right, in 1998) wrote a book about his dog.

27-year-old Fenton, who had fought in World War II, is plunged into a critical battle. In June, the North Korean Army crosses the 38th Parallel into South Korea. After the United Nations Security Council votes to authorize force to repel the surprise invasion, U.N., South Korean and U.S. troops establish a 150-mile-long defensive perimeter around Puson, a port on the southeastern coast.

Fenton's company is sent into a breach in the perimeter and ordered to "hold at all cost," lest the attacking North Koreans flank and rout the allies. "The only marines coming off that hill are dead marines," Fenton says to his commander. Using bayonets and grenades borrowed from another company nearby, Fenton's men hold the line.

Reinforcements arrive, and the battlefront moves on to Inchon, to Seoul, to the "frozen Chosin"; Chinese troops join North Korea's; the Communist forces eventually are pushed back; President Eisenhower signs an armistice treaty in 1953. Killed are at least 600,000 Chinese; 1.5 million North Korean and 1.2 million South Korean civilians and troops; 3,000 U.N. soldiers and 36,500 Americans. Another 8,100 Americans are missing in action. The veterans, returning to U.S. soil, do not receive a hero's welcome and call Korea the "forgotten war."

Fenton (in 1992) left the USMC in 1970.

Duncan's Korea photographs capture the fighting, the mud, the snow, the bloodshed, but more than anything the emotions of the marines, down to their tears. Combat photojournalism, less constrained than in World War II, is not yet as freewheeling as it will become. Duncan avoids photographing the faces of the dead, but he does not shy away from grief and despair. Historians say his *Life* pictures awaken Americans to the gravity of the "police action" in Korea, causing many to question U.S. involvement there.

Duncan later covers the Vietnam War, and rails against it in a 1968 book, *I Protest!* But in seven decades as a photographer he delves into many other subjects and produces 23 books—so far. Born in Kansas City, he has lived in southern France for 40 years. He's 87, and well remembers taking Ike Fenton's picture. "A pretty bad day," he says.

After Puson, Fenton sees more action in Korea and goes on to serve in Vietnam before retiring in 1970 as a much-decorated colonel. He settles in Peachtree City, Georgia, works as an executive for National Cash Register and vigorously promotes the cause of Georgia golf. He dies in 1998 at age 76, leaving two daughters, three sons, 12 grandchildren and a great-grandchild.

The photograph of Fenton, his mouth set but his pale eyes glazed by anguish, is reproduced countless times in books and magazines. "The weight of the world is on Dad's shoulders, realizing what he was asked to do, completing the mission and realizing the cost of what it took," says Ike's son George Fenton, 50, a recently retired Marine colonel who lives in Fredericksburg, Virginia. The corps runs in the family. Ike's father was a brigadier general and his brother, Michael, a private. In a seminal World War II photograph of Okinawa in May 1945, Ike's dad, Francis Fenton, kneels on the ground in prayer next to a flag-draped stretcher. It bears the body of his son Michael, killed by a sniper.

Over the years, Ike Fenton didn't talk much about Puson or the Duncan photograph. "He just said it was part of 30 years in the Corps," recalls his wife of 51 years, Eloise Fenton. Often, people would hand him a copy of the picture and ask for his autograph. He would inscribe it, "War is hell." ○

TERENCE MONMANEY is an executive editor of SMITHSONIAN *magazine.*

DAVID DOUGLAS DUNCAN / PHOTOGRAPHY COLLECTION / HRHRC / UNIVERSITY OF TEXAS, AUSTIN; MARTINE FRANCK / MAGNUM PHOTOS

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Mystery Bumps

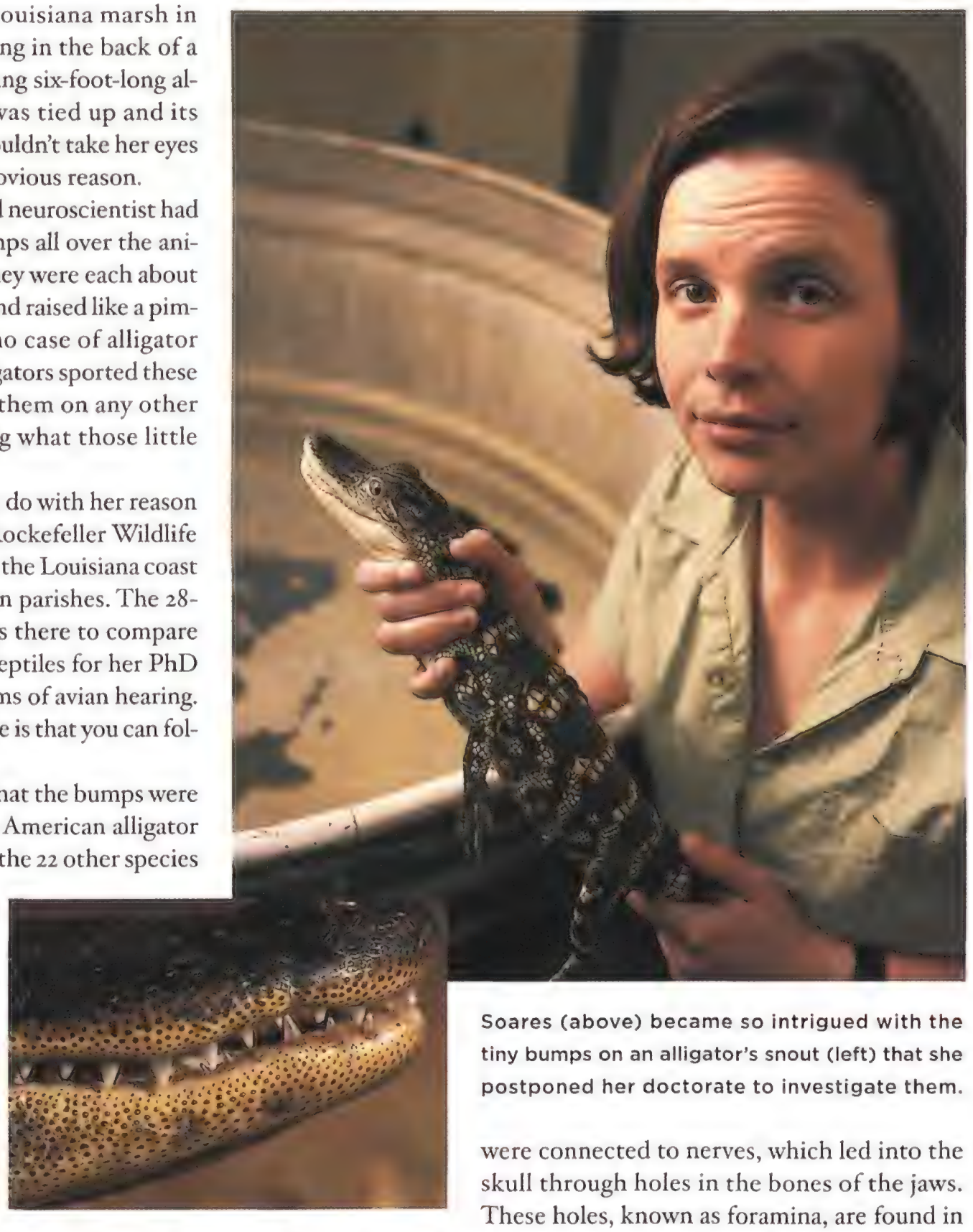
Scientists knew that alligators' jaws are covered in bumps—but it took biologist Daphne Soares to figure out why ~ BY DAVID BERREBY

ON A HOT JULY DAY in a Louisiana marsh in 1999, Daphne Soares was riding in the back of a pickup truck next to a thrashing six-foot-long alligator. Though the reptile was tied up and its mouth cinched shut, Soares couldn't take her eyes off its jaws—but not for the obvious reason.

The University of Maryland neuroscientist had noticed hundreds of dark bumps all over the animal's upper and lower jaw. "They were each about the size of a little blackhead, and raised like a pimple," she says. But this was no case of alligator acne. She knew that other alligators sported these bumps, yet she'd never seen them on any other creature. "I began wondering what those little spots were for," Soares says.

Those musings had little to do with her reason for visiting the 76,000-acre Rockefeller Wildlife Refuge, which stretches along the Louisiana coast in the Cameron and Vermilion parishes. The 28-year-old graduate student was there to compare the brains of birds and large reptiles for her PhD dissertation on the mechanisms of avian hearing. But "a great thing about science is that you can follow your curiosity," she says.

Back in her lab she found that the bumps were characteristic not only of the American alligator (*Alligator mississipiensis*) but of the 22 other species in the 220-million-year-old crocodilian family, which includes alligators, caimans, crocodiles and gharials. For years, crocodilian biologists have used the number, placement and patterns of these bumps as a means of distinguishing between different species. But no one had been able to explain their function. So Soares placed some alligator skin under the microscope and began her own investigation.



Soares (above) became so intrigued with the tiny bumps on an alligator's snout (left) that she postponed her doctorate to investigate them.

Her first reaction was disappointment. "I was hoping to see a pore or a hair or an eyeball looking back at me," Soares jokes. "But all I saw was a bump."

Dissecting an alligator's head, she found that the bumps were connected to nerves, which led into the skull through holes in the bones of the jaws. These holes, known as foramina, are found in all animals and serve as conduits for blood vessels and different facial nerves, such as those that transmit optical and olfactory signals.

To identify which kind of nerve was connected to the bumps, she injected a dye into the nerve itself. As the dye was absorbed slowly by the nerve cells, it left a telltale trail that

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One day, Soares reached into the alligator tank and the speakers went *brrraap*.

Alligators hunt by waiting for their vibration-sensitive bumps to tell them prey is near.

enabled Soares to determine that each bump was connected to the large trigeminal nerve, which stimulates the skin and muscles of the face. Whatever their purpose, these bumps appeared to be important.

It occurred to Soares that the fossil record might be helpful. So Soares approached James M. Clark, a paleontologist at George Washington University and an expert on crocodilians. She learned that not all ancient skulls had these foramina: those with similar holes in the jaw were species known to have lived where land meets water, as alligators and crocodiles do today; crocodilians without bumps lived entirely on dry land.

"But I still didn't know what these things *did*!" says Soares. Clearly the bumps were some kind of sensors that passed along information about the animal's environment directly to the brain. And they appeared to be useful primarily to animals that spent their lives between land and water.

In 2001, Soares won a three-month Grass Foundation Fellowship to the Marine Biological Laboratory in Woods Hole, Massachusetts, a major center for neuroscience research. Until Soares arrived with 20 baby alligators in June, however, no one had used its sophisticated equipment on a crocodilian. At the lab, she taught herself to open the skull of a sedated but living animal and to insert an electrode into the area of the brain that receives electrical signals from the trigeminal nerve.

She hooked up the electrode to a bank of equipment capable of amplifying and recording brain activity in response to nerve stimulation. When nerve cells fired, loudspeakers sounded a series of rhythmic pops.

It took a month of experimenting before Soares could even begin to investigate what kinds of stimulation would make the nerve fire. She tested whether the bumps might be sensitive to light, or to electrical fields, like the skins of some eels and fish. She blew tiny particles of ground-up fish over the bumps to see if they were sensitive to taste or odor. But the loudspeakers stayed silent.

Then, one day, Soares reached into the tank and the speakers went *brrraap*.

After conducting further experiments, Soares concluded that the ripples in the water had caused the bumps to vibrate, which in turn caused the nerve to fire and send a message to the brain. This made sense for an animal that spends much of its life lying quietly in the shallows waiting for its prey to swim by or come to the water's edge for a drink. And it also offered an explanation for why crocodilians that lived on dry land did not have bumps.

Still, Soares wasn't ready to break out the champagne. "If someone pokes you in the eye, your optic nerve fires, but that doesn't mean your eye is a poke-detector," she says. Was detecting ripples the bumps' primary purpose? What if they served some other function that Soares didn't know about? What if alligators found their prey, as do most animals, by sight and hearing?

Soares covered several alligators' ears with fine plastic and placed them in a tank of water. In complete darkness, using an infrared camera to record the animals' reactions, she let a single drop of water fall onto the surface. Though deprived of sight and hearing, all of the animals swam directly toward the spot where the drop hit the water.

Soares next covered several alligators' snouts with the same plastic wrap, so that the bumps no longer came into contact with water or air, thus ensuring they had no way of detecting surface waves. She again dropped water into the tank. The alligators did not respond. Now she was ready to celebrate.

In a paper she published last year in the journal *Nature*, Soares wrote that the alligators' bumps are "pressure receptors" that evolved millions of years ago and solved the problem of how a creature with armorlike skin could have tactile sensitivity. This sensory system is "a specialization of crocodilians that other animals don't have," says Clark. It's a "major breakthrough in crocodilian sensory physiology," says Valentine Lance of the Center for the Reproduction of Endangered Species in San Diego.

Soares still has questions she wants to answer. Alligators have bumps on their jaws and mouths, she points out, while other crocodilians have them all over their bodies. How come? "It's a wonderful mystery. Their world is so different from ours." ○

DAVID BERREBY is a science writer living in New York City.

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BRIEF SUMMARY

For Intranasal Use Only. **SHAKE GENTLY BEFORE USE.**

The following is a brief summary only; see full prescribing information for complete product information.

CONTRAINDICATIONS

FLONASE Nasal Spray is contraindicated in patients with a hypersensitivity to any of its ingredients.

WARNINGS

The replacement of a systemic corticosteroid with a topical corticosteroid can be accompanied by signs of adrenal insufficiency, and in addition some patients may experience symptoms of withdrawal, e.g., joint and/or muscular pain, lassitude, and depression. Patients previously treated for prolonged periods with systemic corticosteroids and transferred to topical corticosteroids should be carefully monitored for acute adrenal insufficiency in response to stress. In those patients who have asthma or other clinical conditions requiring long-term systemic corticosteroid treatment, too rapid a decrease in systemic corticosteroids may cause a severe exacerbation of their symptoms.

The concomitant use of intranasal corticosteroids with other inhaled corticosteroids could increase the risk of signs or symptoms of hypercorticism and/or suppression of the hypothalamic-pituitary-adrenal (HPA) axis.

Persons who are using drugs that suppress the immune system are more susceptible to infections than healthy individuals. Chickenpox and measles, for example, can have a more serious or even fatal course in susceptible children or adults using corticosteroids. In children or adults who have not had these diseases or been properly immunized, particular care should be taken to avoid exposure. How the dose, route, and duration of corticosteroid administration affect the risk of developing a disseminated infection is not known. The contribution of the underlying disease and/or prior corticosteroid treatment to the risk is also not known. If exposed to chickenpox, prophylaxis with varicella zoster immune globulin (VZIG) may be indicated. If exposed to measles, prophylaxis with pooled intramuscular immunoglobulin (IG) may be indicated. (See the respective package inserts for complete VZIG and IG prescribing information.) If chickenpox develops, treatment with antiviral agents may be considered.

Avoid spraying in eyes.

PRECAUTIONS

General: Intranasal corticosteroids may cause a reduction in growth velocity when administered to pediatric patients (see PRECAUTIONS: Pediatric Use).

Rarely, immediate hypersensitivity reactions or contact dermatitis may occur after the administration of FLONASE Nasal Spray. Rare instances of wheezing, nasal septum perforation, cataracts, glaucoma, and increased intraocular pressure have been reported following the intranasal application of corticosteroids, including fluticasone propionate.

Use of excessive doses of corticosteroids may lead to signs or symptoms of hypercorticism and/or suppression of HPA function.

Although systemic effects have been minimal with recommended doses of FLONASE Nasal Spray, potential risk increases with larger doses. Therefore, larger than recommended doses of FLONASE Nasal Spray should be avoided.

When used at higher than recommended doses or in rare individuals at recommended doses, systemic corticosteroid effects such as hypercorticism and adrenal suppression may appear. If such changes occur, the dosage of FLONASE Nasal Spray should be discontinued slowly consistent with accepted procedures for discontinuing oral corticosteroid therapy.

In clinical studies with fluticasone propionate administered intranasally, the development of localized infections of the nose and pharynx with *Candida albicans* has occurred only rarely. When such an infection develops, it may require treatment with appropriate local therapy and discontinuation of treatment with FLONASE Nasal Spray. Patients using FLONASE Nasal Spray over several months or longer should be examined periodically for evidence of *Candida* infection or other signs of adverse effects on the nasal mucosa.

Intranasal corticosteroids should be used with caution, if at all, in patients with active or quiescent tuberculous infections of the respiratory tract; untreated local or systemic fungal or bacterial infections; systemic viral or parasitic infections; or ocular herpes simplex.

Because of the inhibitory effect of corticosteroids on wound healing, patients who have experienced recent nasal septal ulcers, nasal surgery, or nasal trauma should not use a nasal corticosteroid until healing has occurred.

Information for Patients: Patients being treated with FLONASE Nasal Spray should receive the following information and instructions. This information is intended to aid them in the safe and effective use of this medication. It is not a disclosure of all possible adverse or intended effects.

Patients should be warned to avoid exposure to chickenpox or measles and, if exposed, to consult their physician without delay.

Patients should use FLONASE Nasal Spray at regular intervals for optimal effect. Some patients (12 years of age and older) with seasonal allergic rhinitis may find as-needed use of 200 mcg once daily effective for symptom control (see Clinical Trials section of full prescribing information).

A decrease in nasal symptoms may occur as soon as 12 hours after starting therapy with FLONASE Nasal Spray. Results in several clinical trials indicate statistically significant improvement within the first day or two of treatment; however, the full benefit of FLONASE Nasal Spray may not be achieved until treatment has been administered for several days. The patient should not increase the prescribed dosage but should contact the physician if symptoms do not improve or if the condition worsens.

For the proper use of FLONASE Nasal Spray and to attain maximum improvement, the patient should read and follow carefully the patient's instructions accompanying the product.

Drug Interactions: In a placebo-controlled, crossover study in 8 healthy volunteers, coadministration of a single dose of orally inhaled fluticasone propionate (1,000 mcg; 5 times the maximum daily intranasal dose) with multiple doses of ketoconazole (200 mg) to steady state resulted in increased mean fluticasone propionate concentrations, a reduction in plasma cortisol AUC, and no effect on urinary excretion of cortisol. This interaction may be due to an inhibition of cytochrome P450 3A4 by ketoconazole, which is also the route of metabolism of fluticasone propionate. No drug interaction studies have been conducted with FLONASE Nasal Spray; however, care should be exercised when fluticasone propionate is coadministered with long-term ketoconazole and other known cytochrome P450 3A4 inhibitors.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Fluticasone propionate demonstrated no tumorigenic potential in mice at oral doses up to 1,000 mcg/kg (approximately 20 times the maximum recommended daily intranasal dose in adults and approximately 10 times the maximum recommended daily intranasal dose in children on a mcg/m² basis) for 78 weeks or in rats at inhalation doses up to 57 mcg/kg (approximately 2 times the maximum recommended daily intranasal dose in adults and approximately equivalent to the maximum recommended daily intranasal dose in children on a mcg/m² basis) for 104 weeks.

Fluticasone propionate did not induce gene mutation in prokaryotic or eukaryotic cells in vitro. No significant clastogenic effect was seen in cultured human peripheral lymphocytes in vitro or in the mouse micronucleus test.

No evidence of impairment of fertility was observed in reproductive studies conducted in male and female rats at subcutaneous doses up to 50 mcg/kg (approximately 2 times the maximum recommended daily intranasal dose in adults on a mcg/m² basis). Prostate weight was significantly reduced at a subcutaneous dose of 50 mcg/kg.

Pregnancy: *Teratogenic Effects:* Pregnancy Category C. Subcutaneous studies in the mouse and rat at 45 and 100 mcg/kg, respectively (approximately equivalent to and 4 times the maximum recommended daily intranasal dose in adults on a mcg/m² basis, respectively) revealed fetal toxicity characteristic of potent corticosteroid compounds, including embryonic growth retardation, omphalocele, cleft palate, and retarded cranial ossification.

In the rabbit, fetal weight reduction and cleft palate were observed at a subcutaneous dose of 4 mcg/kg (less than the maximum recommended daily intranasal dose in adults on a mcg/m² basis). However, no teratogenic effects were reported at oral doses up to 300 mcg/kg (approximately 25 times the maximum recommended daily intranasal dose in adults on a mcg/m² basis) of fluticasone propionate to the rabbit. No fluticasone propionate was detected in the plasma in this study, consistent with the established low bioavailability following oral administration (see CLINICAL PHARMACOLOGY section of full prescribing information).

Fluticasone propionate crossed the placenta following oral administration of 100 mcg/kg to rats or 300 mcg/kg to rabbits (approximately 4 and 25 times, respectively, the maximum recommended daily intranasal dose in adults on a mcg/m² basis).

There are no adequate and well-controlled studies in pregnant women. Fluticasone propionate should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Experience with oral corticosteroids since their introduction in pharmacologic, as opposed to physiologic, doses suggests that rodents are more prone to teratogenic effects from corticosteroids than humans. In addition, because there is a natural increase in corticosteroid production during pregnancy, most women will require a lower exogenous corticosteroid dose and many will not need corticosteroid treatment during pregnancy.

Nursing Mothers: It is not known whether fluticasone propionate is excreted in human breast milk. However, other corticosteroids have been detected in human milk. Subcutaneous administration to lactating rats of 10 mcg/kg of tritiated flutocasone propionate (less than the maximum recommended daily intranasal dose in adults on a mcg/m² basis) resulted in measurable radioactivity in the milk. Since there are no data from controlled trials on the use of intranasal fluticasone propionate by nursing mothers, caution should be exercised when FLONASE Nasal Spray is administered to a nursing woman.

Pediatric Use: Five hundred (500) patients aged 4 to 11 years and 440 patients aged 12 to 17 years were studied in US clinical trials with fluticasone propionate nasal spray. The safety and effectiveness of FLONASE Nasal Spray in children below 4 years of age have not been established.

Controlled clinical studies have shown that intranasal corticosteroids may cause a reduction in growth velocity in pediatric patients. This effect has been observed in the absence of laboratory evidence of HPA axis suppression, suggesting that growth velocity is a more sensitive indicator of systemic corticosteroid exposure in pediatric patients than some commonly used tests of HPA axis function. The long-term effects of this reduction in growth velocity associated with intranasal corticosteroids, including the impact on final adult height, are unknown. The potential for "catch-up" growth following discontinuation of treatment with intranasal corticosteroids has not been adequately studied. The growth of pediatric patients receiving intranasal corticosteriods, including FLONASE Nasal Spray, should be monitored routinely (e.g., via stadiometry). The potential growth effects of prolonged treatment should be weighed against the clinical benefits obtained and the risks/benefits of treatment alternatives. To minimize the systemic effects of intranasal corticosteroids, including FLONASE Nasal Spray, each patient should be titrated to the lowest dose that effectively controls his/her symptoms.

Geriatric Use: A limited number of patients 65 years of age and older (n=129) or 75 years of age and older (n=11) have been treated with FLONASE Nasal Spray in US and non-US clinical trials. While the number of patients is too small to permit separate analysis of efficacy and safety, the adverse reactions reported in this population were similar to those reported by younger patients.

ADVERSE REACTIONS

In controlled US studies, more than 3,300 patients with seasonal allergic, perennial allergic, or perennial nonallergic rhinitis received treatment with intranasal fluticasone propionate. In general, adverse reactions in clinical studies have been primarily associated with irritation of the nasal mucous membranes, and the adverse reactions were reported with approximately the same frequency by patients treated with the vehicle itself. The complaints did not usually interfere with treatment. Less than 2% of patients in clinical trials discontinued because of adverse events; this rate was similar for vehicle placebo and active comparators.

Systemic corticosteroid side effects were not reported during controlled clinical studies up to 6 months' duration with FLONASE Nasal Spray. If recommended doses are exceeded, however, or if individuals are particularly sensitive or taking FLONASE Nasal Spray in conjunction with administration of other corticosteroids, symptoms of hypercorticism, e.g., Cushing syndrome, could occur.

The following incidence of common adverse reactions (>3%, where incidence in fluticasone propionate-treated subjects exceeded placebo) is based upon 7 controlled clinical trials in which 536 patients (57 girls and 108 boys aged 4 to 11 years, 137 female and 234 male adolescents and adults) were treated with FLONASE Nasal Spray 200 mcg once daily over 2 to 4 weeks and 2 controlled clinical trials in which 246 patients (119 female and 127 male adolescents and adults) were treated with FLONASE Nasal Spray 200 mcg once daily over 6 months. Also included in the table are adverse events from 2 studies in which 167 children (45 girls and 122 boys aged 4 to 11 years) were treated with FLONASE Nasal Spray 100 mcg once daily for 2 to 4 weeks.

Overall Adverse Experiences With >3% Incidence on Fluticasone Propionate in Controlled Clinical Trials With FLONASE Nasal Spray in Patients ≥4 Years With Seasonal or Perennial Allergic Rhinitis

Adverse Experience	Vehicle Placebo (n=758) %	FLONASE 100 mcg Once Daily (n=167) %	FLONASE 200 mcg Once Daily (n=782) %
Headache	14.6	6.6	16.1
Pharyngitis	7.2	6.0	7.8
Epistaxis	5.4	6.0	6.9
Nasal burning/ nasal irritation	2.6	2.4	3.2
Nausea/vomiting	2.0	4.8	2.6
Asthma symptoms	2.9	7.2	3.3
Cough	2.8	3.6	3.8

Other adverse events that occurred in ≤3% but ≥1% of patients and that were more common with fluticasone propionate (with uncertain relationship to treatment) included: blood in nasal mucus, runny nose, abdominal pain, diarrhea, fever, flu-like symptoms, aches and pains, dizziness, bronchitis.

Observed During Clinical Practice: In addition to adverse events reported from clinical trials, the following events have been identified during postapproval use of flutocasone propionate in clinical practice. Because they are reported voluntarily from a population of unknown size, estimates of frequency cannot be made. These events have been chosen for inclusion due to either their seriousness, frequency of reporting, or causal connection to fluticasone propionate or a combination of these factors.

General: Hypersensitivity reactions, including angioedema, skin rash, edema of the face and tongue, pruritus, urticaria, bronchospasm, wheezing, dyspnea, and anaphylaxis/anaphylactoid reactions, which in rare instances were severe.

Ear, Nose, and Throat: Alteration or loss of sense of taste and/or smell and, rarely, nasal septal perforation, nasal ulcer, sore throat, throat irritation and dryness, cough, hoarseness, and voice changes.

Eye: Dryness and irritation, conjunctivitis, blurred vision, glaucoma, increased intraocular pressure, and cataracts.

Cases of growth suppression have been reported for intranasal corticosteroids, including FLONASE (see PRECAUTIONS: Pediatric Use).

OVERDOSAGE

Chronic overdosage may result in signs/symptoms of hypercorticism (see PRECAUTIONS). Intranasal administration of 2 mg (10 times the recommended dose) of flutocasone propionate twice daily for 7 days to healthy human volunteers was well tolerated. Single oral doses up to 16 mg have been studied in human volunteers with no acute toxic effects reported. Repeat oral doses up to 80 mg daily for 10 days in volunteers and repeat oral doses up to 10 mg daily for 14 days in patients were well tolerated. Adverse reactions were of mild or moderate severity, and incidences were similar in active and placebo treatment groups. Acute overdosage with this dosage form is unlikely since 1 bottle of FLONASE Nasal Spray contains approximately 8 mg of fluticasone propionate.

The oral and subcutaneous median lethal doses in mice and rats were >1,000 mg/kg (>20,000 and >41,000 times, respectively, the maximum recommended daily intranasal dose in adults and >10,000 and >20,000 times, respectively, the maximum recommended daily intranasal dose in children on a mg/m² basis)

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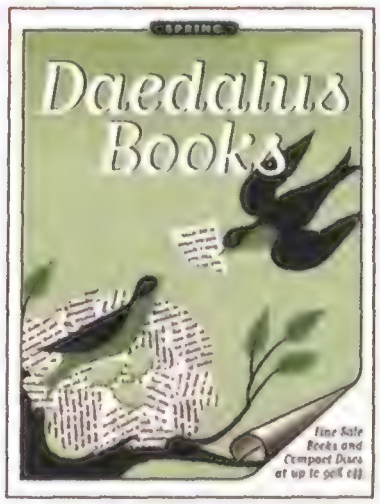

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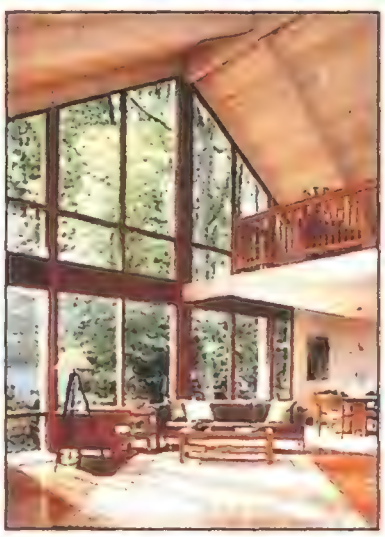

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JUST LOOKING

SIDE BY SIDE "I think we should all be one country," says Canadian Francyne Tougas (blue vest, white shirt), a resident of half-mile-long Canusa (pronounced Canoosa) Street, which runs along the border between Canada and the United States. On the left lies Beebe Plain, Vermont; on the right, Beebe, Quebec. "Whenever we cross the street, technically we're supposed to go through Customs," says Yankee Patricia Willis (white hair, to the right of woman in sunglasses)—who lives just eight doors away from the U.S. Custom House—"but that's not to say we all do." "Wait a minute," says Tougas: "I *always* do." Image by travel photographer Bob Krist.

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[*Mister Rogers' sweater*
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THOMAS ARLEDGE

Comfort Zone

A cardiganed Fred Rogers made every kid feel cozy and warm – BY VICTORIA DAWSON

AT THE OUTSET OF EACH EPISODE, he zipped on that trademark sweater, inaugurating a new day on *Mister Rogers' Neighborhood*, the Pittsburgh-based children's TV program that would become the longest-running series in the history of public television. Through 28 sweaters and 33 years, from 1968 until 2001, the perennially genial and gentle Fred Rogers spoke the language of children—"You'll have things you want to talk about; I will too"—and allayed their fears. Whether it

Rogers created a magic potion of whimsy and reassurance, a mix of songs, conversation and storytelling.

When Rogers met Koko (in California in 1998), the gorilla signed "Koko love visit."

was fending off anxieties about a foray to a barbershop or tackling tough subjects like divorce, Rogers helped preschoolers cope, five days a week.

Rogers, who died of cancer February 27 at age 74, created a magic potion of whimsy and reassurance, a mix of songs, conversation, storytelling and excursions to the "Neighborhood of Make-Believe," an imaginary province enlivened by puppets and a toy trolley. Rogers had a genius, too, for calling on guests—from cellist Yo-Yo Ma to super chef Julia Child and Pittsburgh Steelers wide receiver Lynn Swann—who acted as emissaries from the world beyond the flickering screen. When he stopped filming episodes in 2000—the final one aired in August of the following year—Rogers left a legacy of groundbreaking, heartwarming television. (The show's 900 episodes continue to air as reruns.)

Rogers' unvarying routine—changing from work attire to a grown-up version of play clothes (a cardigan and blue canvas sneakers) at the beginning of each episode—eased viewers into his imaginary neighborhood. "Mister Rogers' style of comfort and warmth, of one-on-one conversation, is conveyed in that sweater," says Dwight Bowers, cultural historian at the Smithsonian Museum of American History and chief custodian of the signature cardigan Rogers donated to the museum in 1984. "Can values be taught via mass culture? I think *Mister Rogers* is proof that they can."

Educational psychologist Jane M. Healy, author of the best-selling *Endangered Minds: Why Our Children Don't Think and What We Can Do About It*, has been a harsh critic of children's programming—*Mister Rogers* excepted. Typically, she says, the frenetic pacing, adult irony and consumerist agenda is, at the very least, inappropriate. "Many cartoons and so-called children's programs, and also software, actually manipulate children's brains by a reliance on rapid-fire images, loud noises and neon colors." In contrast, she says, "Fred Rogers spoke gently. If you want to help kids work through emotional issues, it's a slow process. He moved right into children's hearts and lives."

In one remarkable instance, Rogers demonstrated that his capacity to connect to an audience superseded even the barrier between species. In 1998, when he was taping a segment on sign language, he traveled to the Gorilla Foundation in Woodside, California. There he filmed a sequence in the company of Koko, the gorilla famous for her acquisition of sign language, and her primate companion, Michael. (Both were viewers of *Mister Rogers' Neighborhood*.) Koko recognized her visitor immediately and signed "Koko love." "It was quite amazing," recalls developmental psychologist Francine Penny Patterson, who is now president of the Gorilla Foundation. "Koko was the most open I've ever seen her with a visitor." Although Michael was acutely uncomfortable around strangers, especially males, he calmly gazed at Rogers and signed "Head boy."

Another fan—this one a Homo sapiens—recalls Rogers with no less respect and affection. During the 1970s, Pittsburgh-native Michael Keaton, then in his early 20s, worked as a stagehand at local station WQED—home to *Mister Rogers' Neighborhood*. "I was just this goofball kid," Keaton recalls, "willing to do anything if it was remotely related to being an actor." Fred Rogers, says Keaton, was "surprisingly, a very hip little man in a cardigan. Not afraid to use his power—but always in a democratic way."

On one occasion, Rogers' wife, Joanne, was asked what he was really like at home. "What you see is what you get," she replied. Rogers himself once said, "I am not a character on *Mister Rogers' Neighborhood*. I don't think of time away from the studio as my 'real' life. The studio is my real life; the person on camera is the real me."

Somehow children knew that: perhaps it was the inner consistency they responded to. In Rogers' uniquely soulful universe, they understood they had found a happy, comforting refuge. ○

VICTORIA DAWSON is a freelance writer who is based in Washington, D.C.

RONALD COHN / GORILLA FOUNDATION

Important information:

LIPITOR® (atorvastatin calcium) is a prescription drug used with diet to lower cholesterol. LIPITOR is not for everyone, including those with liver disease or possible liver problems, women who are nursing, pregnant, or may become pregnant. LIPITOR has not been shown to prevent heart disease or heart attacks.

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Please see additional important information on next page.

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LIPITOR® (Atorvastatin Calcium) Tablets
Brief Summary of Prescribing Information

CONTRAINDICATIONS: Active liver disease or unexplained persistent elevations of serum transaminases. Hypersensitivity to any component of this medication. **Pregnancy and Lactation** — Atherosclerosis is a chronic process and discontinuation of lipid-lowering drugs during pregnancy should have little impact on the outcome of long-term therapy of primary hypercholesterolemia. Cholesterol and other products of cholesterol biosynthesis are essential components for fetal development (including synthesis of steroids and cell membranes). Since HMG-CoA reductase inhibitors decrease cholesterol synthesis and possibly the synthesis of other biologically active substances derived from cholesterol, they may cause fetal harm when administered to pregnant women. Therefore, HMG-CoA reductase inhibitors are contraindicated during pregnancy and in nursing mothers. ATORVASTATIN SHOULD BE ADMINISTERED TO WOMEN OF CHILDBEARING AGE ONLY WHEN SUCH PATIENTS ARE HIGHLY UNLIKELY TO CONCEIVE AND HAVE BEEN INFORMED OF THE POTENTIAL HAZARDS. If the patient becomes pregnant while taking this drug, therapy should be discontinued and the patient apprised of the potential hazard to the fetus.

WARNINGS: Liver Dysfunction — HMG-CoA reductase inhibitors, like some other lipid-lowering therapies, have been associated with biochemical abnormalities of liver function. **Persistent elevations (>3 times the upper limit of normal [ULN] occurring on 2 or more occasions) in serum transaminases occurred in 0.7% of patients who received atorvastatin in clinical trials. The incidence of these abnormalities was 0.2%, 0.2%, 0.6%, and 2.3% for 10, 20, 40, and 80 mg, respectively.** One patient in clinical trials developed jaundice. Increases in liver function tests (LFT) in other patients were not associated with jaundice or other clinical signs or symptoms. Upon dose reduction, drug interruption, or discontinuation, transaminase levels returned to or near pretreatment levels without sequelae. Eighteen of 30 patients with persistent LFT elevations continued treatment with a reduced dose of atorvastatin. **It is recommended that liver function tests be performed prior to and at 12 weeks following both the initiation of therapy and any elevation of dose, and periodically (eg, semiannually) thereafter.** Liver enzyme changes generally occur in the first 3 months of treatment with atorvastatin. Patients who develop increased transaminase levels should be monitored until the abnormalities resolve. Should an increase in ALT or AST of >3 times ULN persist, reduction of dose or withdrawal of atorvastatin is recommended. Atorvastatin should be used with caution in patients who consume substantial quantities of alcohol and/or have a history of liver disease. Active liver disease or unexplained persistent transaminase elevations are contraindications to the use of atorvastatin (see CONTRAINDICATIONS). **Skeletal Muscle — Rare cases of rhabdomyolysis with acute renal failure secondary to myoglobinuria have been reported with atorvastatin and with other drugs in this class.** Uncomplicated myalgia has been reported in atorvastatin-treated patients (see ADVERSE REACTIONS). Myopathy, defined as muscle aches or muscle weakness in conjunction with increases in creatine phosphokinase (CPK) values >10 times ULN, should be considered in any patient with diffuse myalgias, muscle tenderness or weakness, and/or marked elevation of CPK. Patients should be advised to report promptly unexplained muscle pain, tenderness or weakness, particularly if accompanied by malaise or fever. Atorvastatin therapy should be discontinued if markedly elevated CPK levels occur or myopathy is diagnosed or suspected. The risk of myopathy during treatment with drugs in this class is increased with concurrent administration of cyclosporine, fibric acid derivatives, erythromycin, niacin, or azole antifungals. Physicians considering combined therapy with atorvastatin and fibric acid derivatives, erythromycin, immunosuppressive drugs, azole antifungals, or lipid-lowering doses of niacin should carefully weigh the potential benefits and risks and should carefully monitor patients for any signs or symptoms of muscle pain, tenderness, or weakness, particularly during the initial months of therapy and during any periods of upward dosage titration of either drug. Periodic creatine phosphokinase (CPK) determinations may be considered in such situations, but there is no assurance that such monitoring will prevent the occurrence of severe myopathy. **Atorvastatin therapy should be temporarily withheld or discontinued in any patient with an acute, serious condition suggestive of a myopathy or having a risk factor predisposing to the development of renal failure secondary to rhabdomyolysis (eg, severe acute infection, hypotension, major surgery, trauma, severe metabolic, endocrine and electrolyte disorders, and uncontrolled seizures).**

PRECAUTIONS: General — Before instituting therapy with atorvastatin, an attempt should be made to control hypercholesterolemia with appropriate diet, exercise, and weight reduction in obese patients, and to treat other underlying medical problems (see INDICATIONS AND USAGE in full prescribing information). **Information for Patients** — Patients should be advised to report promptly unexplained muscle pain, tenderness, or weakness, particularly if accompanied by malaise or fever. **Drug Interactions** — The risk of myopathy during treatment with drugs of this class is increased with concurrent administration of cyclosporine, fibric acid derivatives, niacin (nicotinic acid), erythromycin, azole antifungals (see WARNINGS, Skeletal Muscle). ***Antacid:*** When atorvastatin and Maalox® TC suspension were coadministered, plasma concentrations of atorvastatin decreased approximately 35%. However, LDL-C reduction was not altered. ***Antipyrine:*** Because atorvastatin does not affect the pharmacokinetics of antipyrine, interactions with other drugs metabolized via the same cytochrome isozymes are not expected. ***Colestipol:*** Plasma concentrations of atorvastatin decreased approximately 25% when colestipol and atorvastatin were coadministered. However, LDL-C reduction was greater when atorvastatin and colestipol were coadministered than when either drug was given alone. ***Cimetidine:*** Atorvastatin plasma concentrations and LDL-C reduc-tion were not altered by coadministration of cimetidine. ***Digoxin:*** When multiple doses of atorvastatin and digoxin were coadministered, steady-state plasma digoxin concentrations increased by approximately 20%. Patients taking digoxin should be monitored appropriately. ***Erythromycin:*** In healthy individuals, plasma concentrations of atorvastatin increased approximately 40% with coadministration of atorvastatin and erythromycin, a known inhibitor of cytochrome P450 3A4 (see WARNINGS, Skeletal Muscle). ***Oral Contraceptives:*** Coadministration of atorvastatin and an oral contraceptive increased AUC values for norethindrone and ethinyl estradiol by approximately 30% and 20%. These increases should be considered when selecting an oral contraceptive for a woman taking atorvastatin. ***Warfarin:*** Atorvastatin had no clinically significant effect on prothrombin time when administered to patients receiving chronic warfarin treatment. **Endocrine Function** — HMG-CoA reductase inhibitors interfere with cholesterol synthesis and theoretically might blunt adrenal and/or gonadal steroid production. Clinical studies have shown that atorvastatin does not reduce basal plasma cortisol concentration or impair adrenal reserve. The effects of HMG-CoA reductase inhibitors on male fertility have not been studied in adequate numbers of patients. The effects, if any, on the pituitary-gonadal axis in premenopausal women are unknown. Caution should be exercised if an HMG-CoA reductase inhibitor is administered concomitantly with drugs that may decrease the levels or activity of endogenous steroid hormones, such as ketoconazole, spironolactone, and cimetidine. **CNS Toxicity** — Brain hemorrhage was seen in a female dog treated for 3 months at 120 mg/kg/day. Brain hemorrhage and optic nerve vacuolation were seen in another female dog that was sacrificed in moribund condition after 11 weeks of escalating doses up to 280 mg/kg/day. The 120 mg/kg dose resulted in a systemic exposure approximately 16 times the human plasma area-under-the-curve (AUC, 0-24 hours) based on the maximum human dose of 80 mg/day. A single tonic convulsion was seen in each of 2 male dogs (one treated at 10 mg/kg/day and one at 120 mg/kg/day) in a 2-year study. No CNS lesions have been observed in mice after chronic treatment for up to 2 years at doses up to 400 mg/kg/day or in rats at doses up to 100 mg/kg/day. These doses were 6 to 11 times (mouse) and 8 to 16 times (rat) the human AUC (0-24) based on the maximum recommended human dose of 80 mg/day. CNS vascular lesions, characterized by perivascular hemorrhages, edema, and mononuclear cell infiltration of perivascular spaces, have been observed in dogs treated with other members of this class. A chemically similar drug in this class produced optic nerve degeneration (Wallerian degeneration of retinogeniculate fibers) in clinically normal dogs in a dose-dependent fashion at a dose that produced plasma drug levels about 30 times higher than the mean drug level in humans taking the highest recommended dose. **Carcinogenesis, Mutagenesis, Impairment of Fertility** — In a 2-year carcinogenicity study in rats at dose levels of 10, 30, and 100 mg/kg/day, 2 rare tumors were found in muscle in high-dose females: in one, there was a rhabdomyosarcoma and, in another, there was a fibrosarcoma. This dose represents a plasma AUC (0-24) value of approximately 16 times the mean human plasma drug exposure after an 80 mg oral dose. A 2-year carcinogenicity study in mice given 100, 200, or 400 mg/kg/day resulted in a significant increase in liver adenomas in high-dose males and liver carcinomas in high-dose females. These findings occurred at plasma AUC (0-24) values of approximately 6 times the mean human plasma drug exposure after an 80 mg oral dose. *In vitro,* atorvastatin was not mutagenic or clastogenic in the following tests with and without metabolic activation: the Ames test with *Salmonella typhimurium* and *Escherichia coli,* the HGPRT forward mutation assay in Chinese hamster lung cells, and the chromosomal aberration assay in Chinese hamster lung cells. Atorvastatin was negative in the *in vivo* mouse micronucleus test. Studies in rats performed at doses up to 175 mg/kg (15 times the human exposure) produced no changes in fertility. There was aplasia and aspermia in the epididymis of 2 of 10 rats treated with 100 mg/kg/day of atorvastatin for 3 months (16 times the human AUC at the 80 mg dose); testis weights were significantly lower at 30 and 100 mg/kg and epididymal weight was lower at 100 mg/kg. Male rats given 100 mg/kg/day for 11 weeks prior to mating had decreased sperm motility, spermatid head concentration, and increased abnormal sperm. Atorvastatin caused no adverse effects on semen parameters, or reproductive organ-histopathology in dogs given doses of 10, 40, or 120 mg/kg for two years. **Pregnancy — Pregnancy Category X: See CONTRAINDICATIONS.** Safety in pregnant women has not been established. Atorvastatin crosses the rat placenta and reaches a level in fetal liver equivalent to that of maternal plasma. Atorvastatin was not teratogenic in rats at doses up to 300 mg/kg/day or in rabbits at doses up to 100 mg/kg/day. These doses resulted in multiples of about 30 times (rat) or 20 times (rabbit) the human exposure based on surface area (mg/m^2). In a study in rats given 20, 100, or 225 mg/kg/day, from gestation day 7 through to lactation day 21 (weaning), there was decreased pup survival at birth, neonate, weaning, and maturity in pups of mothers dosed with 225 mg/kg/day. Body weight was decreased on days 4 and 21 in pups of mothers dosed at 100 mg/kg/day; pup body weight was decreased at birth and at days 4, 21, and 91 at 225 mg/kg/day. Pup development was delayed (rotorod performance at 100 mg/kg/day and acoustic startle at 225 mg/kg/day; pinnae detachment and eye opening at 225 mg/kg/day). These doses correspond to 6 times (100 mg/kg) and 22 times (225 mg/kg) the human AUC at 80 mg/day. Rare reports of congenital anomalies have been received following intrauterine exposure to HMG-CoA reductase inhibitors. There has been one report of severe congenital bony deformity, tracheo-esophageal fistula, and anal atresia (VATER association) in a baby born to a woman who took lovastatin with dextroamphetamine sulfate during the first trimester of pregnancy. LIPITOR should be administered to women of child-bearing potential only when such patients are highly unlikely to conceive and have been informed of the potential hazards. If the woman becomes pregnant while taking LIPITOR, it should be discontinued and the patient advised again as to the potential hazards to the fetus. **Nursing Mothers** — Nursing rat pups had plasma and liver drug levels of 50% and 40%, respectively, of that in their mother's milk. Because of the potential for adverse reactions in nursing infants, women taking LIPITOR should not breastfeed (see CONTRAINDICATIONS). **Pediatric Use** — Treatment experience in a pediatric population is limited to doses of LIPITOR up to 80 mg/day for 1 year in 8 patients with homozygous FH. No clinical or biochemical abnormalities were reported in these patients. None of these patients was below 9 years of age. **Geriatric Use** — The safety and efficacy of atorvastatin (10-80 mg) in the geriatric population (≥65 years of age) was evaluated in the ACCESS study. In this 54-week open-label trial 1,958 patients initiated therapy with atorvastatin 10 mg. Of these, 835 were elderly (≥65 years) and 1,123 were non-elderly. The mean change in LDL-C from baseline after 6 weeks of treatment with atorvastatin 10 mg was -38.2% in the elderly patients versus -34.6% in the non-elderly group. The rates of discontinuation due to adverse events were similar between the two age groups. There were no differences in clinically relevant laboratory abnormalities between the age groups.

ADVERSE REACTIONS: LIPITOR is generally well tolerated. Adverse reactions have usually been mild and transient. In controlled clinical studies of 2502 patients, <2% of patients were discontinued due to adverse experiences attributable to atorvastatin. The most frequent adverse events thought to be related to atorvastatin were constipation, flatulence, dyspepsia, and abdominal pain. **Clinical Adverse Experiences** — Adverse experiences reported in ≥2% of patients in placebo-controlled clinical studies of atorvastatin, regardless of causality assessment, are shown in the following table.

Adverse Events in Placebo-Controlled Studies (% of Patients)

BODY SYSTEM Adverse Event	Placebo N = 270	Atorvastatin 10 mg N = 863	Atorvastatin 20 mg N = 36	Atorvastatin 40 mg N = 79	Atorvastatin 80 mg N = 94
BODY AS A WHOLE					
Infection	10.0	10.3	2.8	10.1	7.4
Headache	7.0	5.4	16.7	2.5	6.4
Accidental Injury	3.7	4.2	0.0	1.3	3.2
Flu Syndrome	1.9	2.2	0.0	2.5	3.2
Abdominal Pain	0.7	2.8	0.0	3.8	2.1
Back Pain	3.0	2.8	0.0	3.8	1.1
Allergic Reaction	2.6	0.9	2.8	1.3	0.0
Asthenia	1.9	2.2	0.0	3.8	0.0
DIGESTIVE SYSTEM					
Constipation	1.8	2.1	0.0	2.5	1.1
Diarrhea	1.5	2.7	0.0	3.8	5.3
Dyspepsia	4.1	2.3	2.8	1.3	2.1
Flatulence	3.3	2.1	2.8	1.3	1.1
RESPIRATORY SYSTEM					
Sinusitis	2.6	2.8	0.0	2.5	6.4
Pharyngitis	1.5	2.5	0.0	1.3	2.1
SKIN AND APPENDAGES					
Rash	0.7	3.9	2.8	3.8	1.1
MUSCULOSKELETAL SYSTEM					
Arthralgia	1.5	2.0	0.0	5.1	0.0
Myalgia	1.1	3.2	5.6	1.3	0.0

The following adverse events were reported, regardless of causality assessment in patients treated with atorvastatin in clinical trials. The events in italics occurred in ≥2% of patients and the events in plain type occurred in <2% of patients.

Body as a Whole: *Chest pain,* face edema, fever, neck rigidity, malaise, photosensitivity reaction, generalized edema. ***Digestive System:*** *Nausea,* gastroenteritis, liver function tests abnormal, colitis, vomiting, gastritis, dry mouth, rectal hemorrhage, esophagitis, eructation, glossitis, mouth ulceration, anorexia, increased appetite, stomatitis, biliary pain, cheilitis, duodenal ulcer, dysphagia, enteritis, melena, gum hemorrhage, stomach ulcer, tenesmus, ulcerative stomatitis, hepatitis, pancreatitis, cholestatic jaundice. ***Respiratory System:*** *Bronchitis, rhinitis,* pneumonia, dyspnea, asthma, epistaxis. ***Nervous System:*** *Insomnia, dizziness,* paresthesia, somnolence, amnesia, abnormal dreams, libido decreased, emotional lability, incoordination, peripheral neuropathy, torticollis, facial paralysis, hyperkinesia, depression, hypesthesia, hypertonia. ***Musculoskeletal System:*** *Arthritis,* leg cramps, bursitis, tenosynovitis, myasthenia, tendinous contracture, myositis. ***Skin and Appendages:*** Pruritus, contact dermatitis, alopecia, dry skin, sweating, acne, urticaria, eczema, seborrhea, skin ulcer. ***Urogenital System:*** *Urinary tract infection,* urinary frequency, cystitis, hematuria, impotence, dysuria, kidney calculus, nocturia, epididymitis, fibrocystic breast, vaginal hemorrhage, albuminuria, breast enlargement, metrorrhagia, nephritis, urinary incontinence, urinary retention, urinary urgency, abnormal ejaculation, uterine hemorrhage. ***Special Senses:*** Amblyopia, tinnitus, dry eyes, refraction disorder, eye hemorrhage, deafness, glaucoma, parosmia, taste loss, taste perversion. ***Cardiovascular System:*** Palpitation, vasodilatation, syncope, migraine, postural hypotension, phlebitis, arrhythmia, angina pectoris, hypertension. ***Metabolic and Nutritional Disorders:*** *Peripheral edema,* hyperglycemia, creatine phosphokinase increased, gout, weight gain, hypoglycemia. ***Hemic and Lymphatic System:*** Ecchymosis, anemia, lymphadenopathy, thrombocytopenia, petechia. ***Postintroduction Reports*** — Adverse events associated with LIPITOR therapy reported since market introduction, that are not listed above, regardless of causality assessment, include the following: anaphylaxis, angioneurotic edema, bullous rashes (including erythema multiforme, Stevens-Johnson syndrome, and toxic epidermal necrolysis), and rhabdomyolysis.

OVERDOSAGE: There is no specific treatment for atorvastatin overdosage. In the event of an overdose, the patient should be treated symptomatically, and supportive measures instituted as required. Due to extensive drug binding to plasma proteins, hemodialysis is not expected to significantly enhance atorvastatin clearance.

Please see full prescribing information for more information about LIPITOR.

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For Singh, the subcontinent's ubiquitous Ambassador automobile added layers—both literal and figurative—to his photographs.

Raghubir Singh's Window onto India

The late photographer used India's all-purpose vehicle as both prop and symbol

IN STREET PHOTOGRAPHY, the automobile has usually spelled alienation. In William Klein's 1955 image *Cadillac, New York*, two salesmen stand in a showroom, their mordant faces at odds with the car's glamorous premise. In Robert Frank's *1955-56 St. Petersburg, Florida*, a blurred and indifferent sedan in the background appears to speed across the heads of five elderly people in the foreground.

Indian photographer Raghubir Singh, who died of a heart attack in 1999 at age 56, was—like Klein and Frank—one of the great artists of the street. But unlike them, he worked only in color. And when Singh made photographs that included automobiles, they were not images of desolation. In his 1998 book, *River of Colour*, he wrote: "Beauty, nature, humanism and spirituality should remain working wellsprings in the Indian photographer's armoury, in spite of the great danger of sentimentality that modernism attaches to these values."

In his photographs at the Arthur M. Sackler Gallery—"Auto*Focus: Raghubir Singh's Way Into India," which runs to August 10—it's tempting to see gimmickry, maybe even schmaltz. All the images feature the Ambassador, the Indian-made car that until the economic liberalization of the 1990s was almost the only car in India. "He uses the automobile as a camera," explains American conceptual artist John Baldessari in Singh's posthumously published book *A Way*

The Ambassador *is* India, said Singh.

© 2002 SUCCESSION RAGHUBIR SINGH (2)

Singh often used the car's windows to frame his subjects. Says artist John Baldessari, "He makes gazes collide."

Into India. "He then includes this surrogate camera in the photograph, which provides large areas of black, reflections, transparencies and the dramatic arcs of the car's design."

The results are layered with meaning and form—and that's how Singh sidesteps sentimentality. The Ambassador, which resembles the old Checker taxicabs, was both official conveyance for the prime minister and makeshift home for the poorest hired driver. Singh's photographs reenact this societal crosscutting. In one image, the open back door of the car frames Rothko-like blue and sand rectangles, and on the right are three figures, a woman in a lemon and coral sari, her companion in the same coral and a man wearing a plaid cloth whose colors and shapes echo the rectangles of blue and sand.

In Singh's 1995 photograph of Bidar Fort in the state of Karnataka, there are six views in one image: the fort in the background, the Ambassador in the foreground, a sooty elbow poking out the car's front window, an abstraction of light on a closed vent window, an Edward Weston-style reflection of the fort's parapet on a back window and, on yet another window, a postcard-perfect reflection of the fort in fiery terra-cotta against a Dutch-blue sky. "He is mediating our view of India," says curator Debra Diamond. "He is playing with levels of representation. He is also playing with the forms—the crenellations of the fort and the shape of the car."

Singh's work appeared at the Hirshhorn last fall in a major exhibition called "Open City: Street Photographs Since 1950." That show and his inclusion in recent international exhibitions such as the Tate Modern's "Century City" in 2001 and the National Gallery of Modern Art's "River of Colour" in New Delhi in 1999 signal that a reevaluation of his work may be under way. Critics have begun to view Singh's use of color—along with that of American photographer William Eggleston—as critical to moving art photography away from black and white. —*LORRAINE ADAMS*

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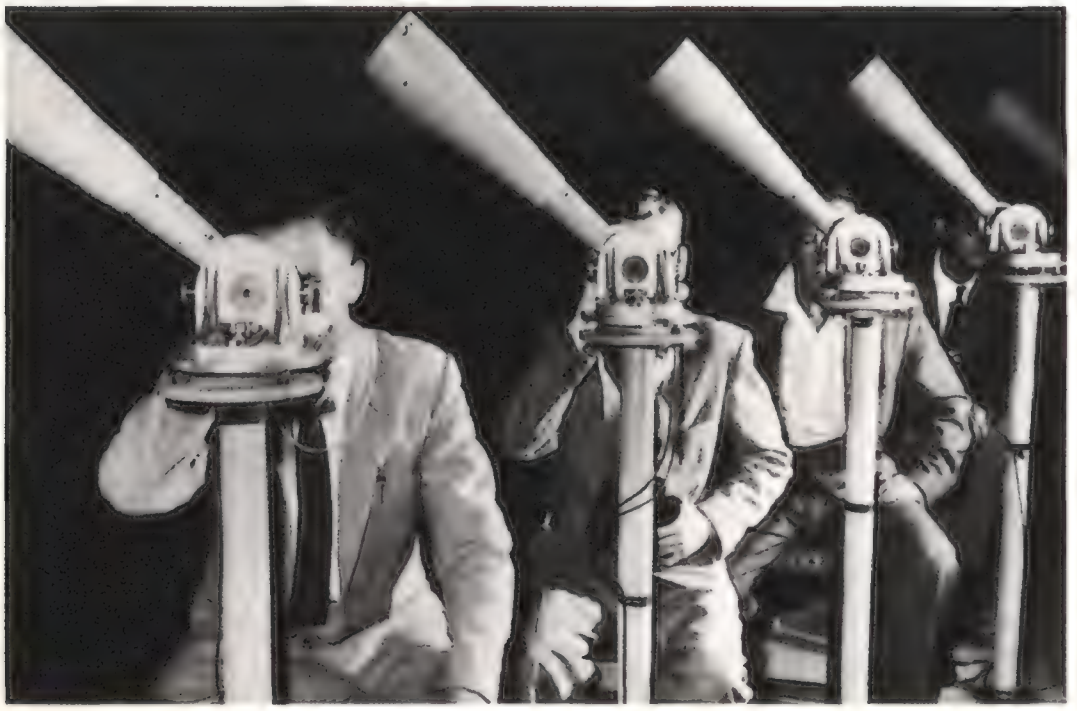
FROM THE ATTIC



MOONWATCH MADNESS J. Allen Hynek got the call at 6:30 p.m. October 4, 1957. The associate director of the Smithsonian Astrophysical Observatory, near Boston, hung up and told a colleague: "There's a Russian satellite up." *Sputnik*'s launch shocked the public; scientists were surprised only that the Russians did it first—earlier that year, researchers worldwide had agreed their countries would send up satellites to study the planet. In anticipation, observatory director Fred Whipple had summoned amateur astronomers—to be called Moonwatchers—to track any satellites. After *Sputnik*, 83 teams in 20 countries (above, in Pretoria, South Africa) rushed to their posts. By 1959, some 230 teams were tracking two dozen satellites; the teams' data led to an accurate measure of the Earth's size and shape. Cameras replaced the Moonwatchers by 1975. Whipple is now director emeritus, and Hynek, who died in 1986, went on to study UFOs. In 1972 he coined the phrase "close encounters of the third kind." —*BETH PY-LIEBERMAN*

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SMI5/03

Celebrating Country Music's Roots

The Smithsonian Folklife Festival mixes the music of Scotland, Mali and Appalachia

A.P. CARTER was destined for fame. But on July 31, 1927, he was tired and dusty from the drive he and his wife, Sara, and Sara's cousin, Maybelle Addington, had made from their home in Maces Springs, Virginia. It was only 25 miles to Bristol, on the Tennessee-Virginia border, where A.P. was to audition the next day, but his tires had blown out so many times on the hot pavement that the family of singers arrived too late to rehearse.

The next morning, A.P., Sara and Maybelle climbed the narrow stairs of an old hat factory on Bristol's State Street, lugging an Autoharp and a guitar, to perform for Ralph Peer, a producer from New York City's Victor Talking Machine Company. Peer was in town for a ten-day talent search and recording session. When the trio began to perform—the lyrical "Single Girl, Married Girl" and "Bury Me Under the Weeping Willow"—Peer was impressed. "Soon as I heard Sara's voice," he said later, "I knew it was going to be wonderful." The Carter Family's multigenerational career—and the broader world's acquaintance with country music—began that day.

A mural in Bristol depicts the famous 1927 recordings that spread country music beyond the hollers.

This summer the Bristol recording sessions and Appalachian music will be celebrated at the Smithsonian's 37th annual Folklife Festival. Groups such as the Buckingham Lining-Bar Gang, who are retired railway workers from Virginia, will perform on the grassy strip that runs from the Capitol to the Washington Monument. They'll be joined by musicians, dancers and artisans from Scotland and West Africa's Republic of Mali, Old World lands whose people came to this country in the 18th and 19th centuries by choice, by economic circumstance or as slaves. What do the three cultures have in common? Many from Scotland and Mali eventually settled into the region stretching from Virginia to Louisiana, adding their voices and instruments to Appalachian music.

In the Bristol Sessions, for example, an old Scottish ballad, "The Lass of Loch Royal," dances at the edges of the Carters' song "The Storms Are on the Ocean." "Oh, who will dress your pretty little feet," Sara sang; the Scottish tune goes "O wha will shoe thy bonny feet." And the banjo that propels country music traces its ancestry to the Malian *ngoni*, an instrument made from a gourd and gut strings. "When the musicians from Appalachia meet the strings players from Mali and Scotland, it's going to be powerful," says Jeff Place, one of the festival curators. "We've just got to make sure that players from all three cultures get some time to jam together." —*BETH PY-LIEBERMAN*

The 2003 Smithsonian Folklife Festival runs June 25-29 and July 2-6. For information go to www.folklife.si.edu. Visit Smithsonian affiliate Birthplace of Country Music Alliance at www.birthplaceofcountrymusic.org.

WHO'S COUNTING?

FUN FACTS FROM THE FOLKLIFE FESTIVAL

400

POUNDS AND SIX FEET LONG AT ITS LARGEST, THE NILE PERCH IS A MALIAN DELICACY. HUGE FILLETS WILL BE BROUGHT TO THE MALL AND PREPARED WITH CHILI SAUCE, FRIED BANANAS AND RICE TO SHOWCASE MALI'S CUISINE. THE FISH THRIVES IN THE NIGER RIVER, WHICH LOOPS THROUGH ALL THE LANDLOCKED COUNTRY'S MAJOR CITIES, INCLUDING LEGENDARY TIMBUKTU.

3

PERCENT OF THE POPULATION OF FAIR ISLE, SCOTLAND, WILL JOURNEY TO THE FESTIVAL. HAILING FROM THE REMOTE ISLAND (POPULATION 70) ARE ANNE SINCLAIR, A KNITTER OF FAIR ISLE'S MULTICOLORED SWEATERS, AND IAN BEST, BUILDER OF A NESS YOAL, A 24-FOOT, OAR- AND SAIL-POWERED FISHING VESSEL THAT TRACES ITS LINEAGE TO THE VIKINGS.

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Designer in the Hot Seat

Artist Critz Campbell enlightens us about a luminous chair named Eudora

THE SMITHSONIAN'S Cooper-Hewitt, National Design Museum presents 80 cutting-edge artists and design firms in the exhibition "National Design Triennial: Inside Design Now," which runs to January 25, 2004. Among the exhibits is Chicago-based designer Critz Campbell's illuminated Eudora chair. Campbell talked about it with writer Patrick Cooke:

Why did you name the chair Eudora?
It's in honor of Mississippi writer Eudora Welty—I'm originally from Mississippi. The first chair I did was called Eleanor—as in Roosevelt—and Eudora is the second. I looked for names that reflect quintessential Depression-era women. The chair itself is an archetypal 1930s armchair. The fabric is also very '30s.

How did you make it glow so evenly?
I had to build a chair with no armature inside. So it's actually made of fiberglass in a mold, much like the way a bathtub is formed. Then I upholster it with fabric that's coated with clear resin. The whole thing is translucent, so it glows when you add the fluorescent lamp.

Did form follow function or the other way around?
It was a balance. You start by presenting an audience with a familiar object. If they think they know it, they won't dismiss it. Once they're comfortable, they start realizing there's more to the object than they expected. They think, OK, it's a classic club chair, but it's encased in resin. It's solid, not soft. It's illuminated. What does that say about what a chair should be?

Is it hot to sit in?
No. Fluorescent light doesn't give off much heat. But people always feel the chair first to see if it's warm.

It looks fragile.
Actually, the fiberglass is quite strong. It's the fabric and the lighting that make it appear delicate.

Is it comfortable?
Yeah. I spent a lot of time studying things like seat-back pitch, to fit the widest variety of people. It's nice when people sit down expecting it not to be comfortable and then relax in it.

Eudoras sell for about $2,800. Who buys them?
Mostly people who want visual impact. There's a Eudora in a window of the Marshall Field's in Chicago, for example, and there's one going in Saks Fifth Avenue in New York. They're also a big hit in nightclubs. Then there are people who collect art furniture. But, honestly, I don't know where people put them in their houses.

Near an electrical outlet, one would guess.
Yeah. That makes sense.

For more on the exhibition, visit www.si.edu/ndm.

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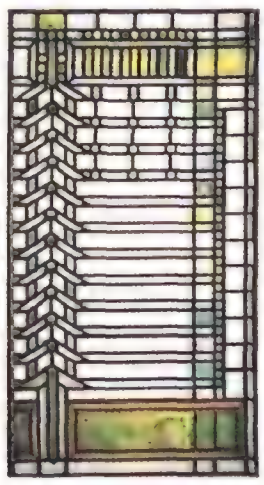

"Light Screens: The Leaded Glass of Frank Lloyd Wright," now at the Renwick Gallery, closes July 20. The architect, who died in 1959 at age 92, is less known for his windows, which evoke the Japanese screens that inspired him. (Left, casement window, Darwin D. Martin complex, 1903-1905.)

VISIT THE SMITHSONIAN For a free Associates' planning packet, call Smithsonian Information, 202-357-2700 or 202-357-1729 (TTY), 9 a.m.-5 p.m., Monday through Saturday, or send an e-mail to info@si.edu. **INFORMATION CENTER:** Upon arrival, stop at the Smithsonian Information Center in the Castle (9 a.m.-5:30 p.m.). Members are invited to drop by the reception desk (9 a.m.-4 p.m.) to register for a behind-the-scenes tour and to hear about membership benefits. Most museums are open daily, 10 a.m.-5:30 p.m., except December 25. From May 23 through September 1, the National Museum of Natural History is open until 7:30 p.m. daily.

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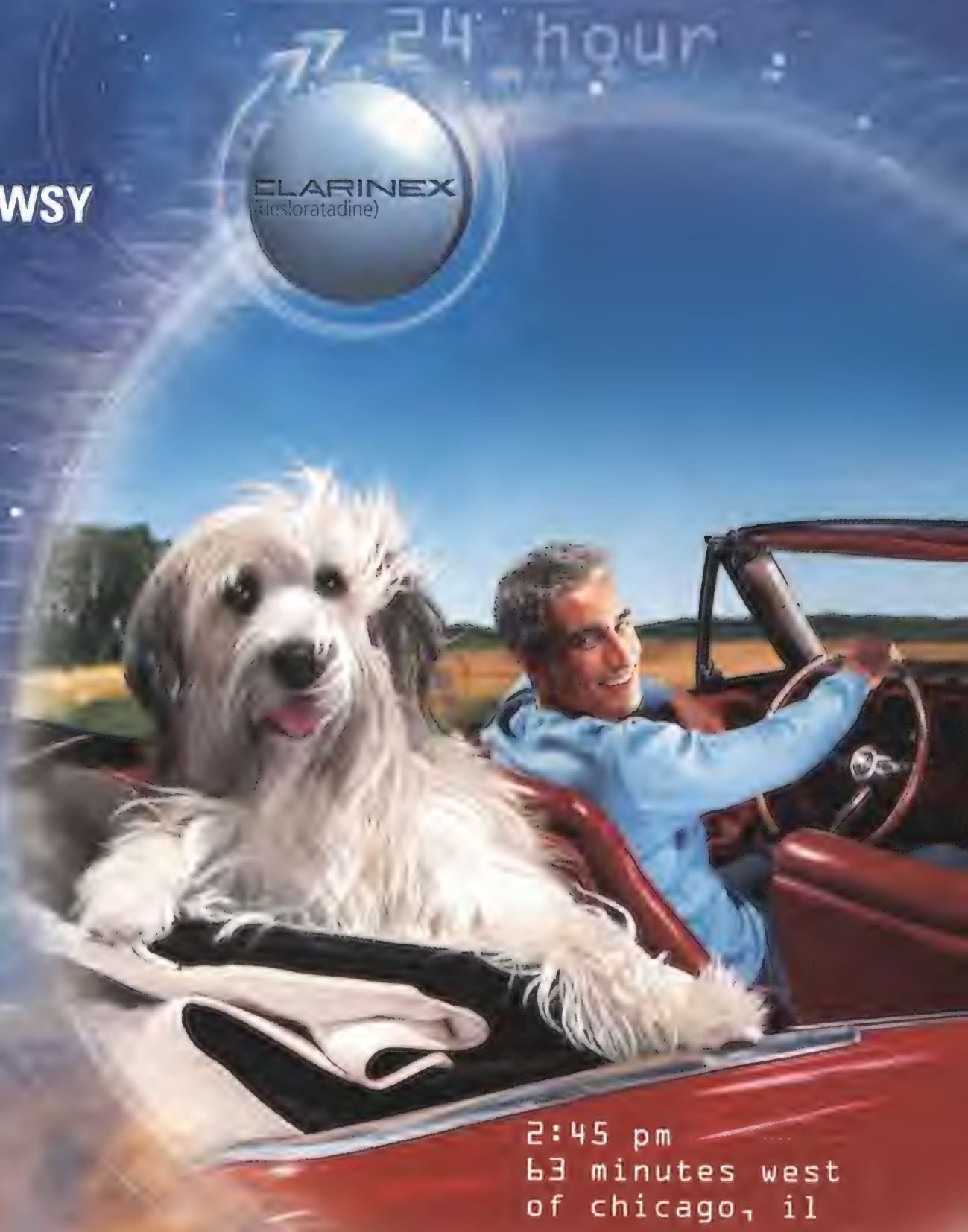

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CLARINEX®
(desloratadine)
TABLETS

Brief Summary (For full Prescribing Information, see package insert.)

INDICATIONS AND USAGE: Allergic Rhinitis: CLARINEX Tablets 5 mg are indicated for the relief of the nasal and non-nasal symptoms of allergic rhinitis (seasonal and perennial) in patients 12 years of age and older.

Chronic Idiopathic Urticaria: CLARINEX Tablets are indicated for the symptomatic relief of pruritus, reduction in the number of hives, and size of hives, in patients with chronic idiopathic urticaria 12 years of age and older.

CONTRAINDICATIONS: CLARINEX Tablets 5 mg are contraindicated in patients who are hypersensitive to this medication or to any of its ingredients, or to loratadine.

PRECAUTIONS: Carcinogenesis, Mutagenesis, Impairment of Fertility: The carcinogenic potential of desloratadine was assessed using loratadine studies. In an 18-month study in mice and a 2-year study in rats, loratadine was administered in the diet at doses up to 40 mg/kg/day in mice (estimated desloratadine and desloratadine metabolite exposures were approximately 3 times the AUC in humans at the recommended daily oral dose) and 25 mg/kg/day in rats (estimated desloratadine and desloratadine metabolite exposures were approximately 30 times the AUC in humans at the recommended daily oral dose). Male mice given 40 mg/kg/day loratadine had a significantly higher incidence of hepatocellular tumors (combined adenomas and carcinomas) than concurrent controls. In rats, a significantly higher incidence of hepatocellular tumors (combined adenomas and carcinomas) was observed in males given 10 mg/kg/day and in males and females given 25 mg/kg/day. The estimated desloratadine and desloratadine metabolite exposures of rats given 10 mg/kg of loratadine were approximately 7 times the AUC in humans at the recommended daily oral dose. The clinical significance of these findings during long-term use of desloratadine is not known.

In genotoxicity studies with desloratadine, there was no evidence of genotoxic potential in a reverse mutation assay (*Salmonella/E. coli* mammalian microsome bacterial mutagenicity assay) or in two assays for chromosomal aberrations (human peripheral blood lymphocyte clastogenicity assay and mouse bone marrow micronucleus assay).

There was no effect on female fertility in rats at desloratadine doses up to 24 mg/kg/day (estimated desloratadine and desloratadine metabolite exposures were approximately 130 times the AUC in humans at the recommended daily oral dose). A male specific decrease in fertility, demonstrated by reduced female conception rates, decreased sperm numbers and motility, and histopathologic testicular changes, occurred at an oral desloratadine dose of 12 mg/kg in rats (estimated desloratadine exposures were approximately 45 times the AUC in humans at the recommended daily oral dose). Desloratadine had no effect on fertility in rats at an oral dose of 3 mg/kg/day (estimated desloratadine and desloratadine metabolite exposures were approximately 8 times the AUC in humans at the recommended daily oral dose).

Pregnancy Category C: Desloratadine was not teratogenic in rats at doses up to 48 mg/kg/day (estimated desloratadine and desloratadine metabolite exposures were approximately 210 times the AUC in humans at the recommended daily oral dose) or in rabbits at doses up to 60 mg/kg/day (estimated desloratadine exposures were approximately 230 times the AUC in humans at the recommended daily oral dose). In a separate study, an increase in preimplantation loss and a decreased number of implantations and fetuses were noted in female rats at 24 mg/kg (estimated desloratadine and desloratadine metabolite exposures were approximately 120 times the AUC in humans at the recommended daily oral dose). Reduced body weight and slow righting reflex were reported in pups at doses of 9 mg/kg/day or greater (estimated desloratadine and desloratadine metabolite exposures were approximately 50 times or greater than the AUC in humans at the recommended daily oral dose). Desloratadine had no effect on pup development at an oral dose of 3 mg/kg/day (estimated desloratadine and desloratadine metabolite exposures were approximately 7 times the AUC in humans at the recommended daily oral dose). There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, desloratadine should be used during pregnancy only if clearly needed.

Nursing Mothers: Desloratadine passes into breast milk, therefore a decision should be made whether to discontinue nursing or to discontinue desloratadine, taking into account the importance of the drug to the mother.

Pediatric Use: The safety and effectiveness of CLARINEX Tablets in pediatric patients under 12 years of age have not been established.

Geriatric Use: Clinical studies of desloratadine did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects. Other reported clinical experience has not identified differences between the elderly and younger patients. In general, dose selection for an elderly patient should be cautious, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy. (see **CLINICAL PHARMACOLOGY – Special Populations**).

Information for Patients: Patients should be instructed to use CLARINEX Tablets as directed. As there are no food effects on bioavailability, patients can be instructed that CLARINEX Tablets may be taken without regard to meals. Patients should be advised not to increase the dose or dosing frequency as studies have not demonstrated increased effectiveness at higher doses and somnolence may occur.

ADVERSE REACTIONS: Allergic Rhinitis: In multiple-dose placebo-controlled trials, 2,834 patients received CLARINEX Tablets at doses of 2.5 mg to 20 mg daily, of whom 1,655 patients received the recommended daily dose of 5 mg. In patients receiving 5 mg daily, the rate of adverse events was similar between CLARINEX and placebo-treated patients. The percent of patients who withdrew prematurely due to adverse events was 2.4% in the CLARINEX group and 2.6% in the placebo group. There were no serious adverse events in these trials in patients receiving desloratadine. All adverse events that were reported by greater than or equal to 2% of patients who received the recommended daily dose of CLARINEX Tablets (5.0 mg once-daily), and that were more common with CLARINEX Tablet than placebo, are listed in Table 5.

Table 5

Incidence of Adverse Events Reported by ≥ 2% of Allergic Rhinitis Patients in Placebo-Controlled, Multiple-Dose Clinical Trials

Adverse Experience	CLARINEX Tablets 5 mg (n=1,655)	Placebo (n=1,652)
Pharyngitis	4.1%	2.0%
Dry Mouth	3.0%	1.9%
Myalgia	2.1%	1.8%
Fatigue	2.1%	1.2%
Somnolence	2.1%	1.8%
Dysmenorrhea	2.1%	1.6%

The frequency and magnitude of laboratory and electrocardiographic abnormalities were similar in CLARINEX and placebo-treated patients.

There were no differences in adverse events for subgroups of patients as defined by gender, age, or race.

Chronic Idiopathic Urticaria: In multiple-dose, placebo-controlled trials of chronic idiopathic urticaria, 211 patients received CLARINEX Tablets and 205 received placebo. Adverse events that were reported by greater than or equal to 2% of patients who received CLARINEX Tablets and that were more common with CLARINEX than placebo were (rates for CLARINEX and placebo, respectively): headache (14%, 13%), nausea (5%, 2%), fatigue (5%, 1%), dizziness (4%, 3%), pharyngitis (3%, 2%), dyspepsia (3%, 1%), and myalgia (3%, 1%).

The following spontaneous adverse events have been reported during the marketing of desloratadine: tachycardia, and rarely hypersensitivity reactions (such as rash, pruritus, urticaria, edema, dyspnea, and anaphylaxis), and elevated liver enzymes including bilirubin.

DRUG ABUSE AND DEPENDENCE: There is no information to indicate that abuse or dependency occurs with CLARINEX Tablets.

OVERDOSAGE: Information regarding acute overdosage is limited to experience from clinical trials conducted during the development of the CLARINEX product. In a dose ranging trial, at doses of 10 mg and 20 mg/day somnolence was reported.

Single daily doses of 45 mg were given to normal male and female volunteers for 10 days. All ECGs obtained in this study were manually read in a blinded fashion by a cardiologist. In CLARINEX-treated subjects, there was an increase in mean heart rate of 9.2 bpm relative to placebo. The QT interval was corrected for heart rate (QT_c) by both the Bazett and Fridericia methods. Using the QT_c (Bazett) there was a mean increase of 8.1 msec in CLARINEX-treated subjects relative to placebo. Using QT_c (Fridericia) there was a mean increase of 0.4 msec in CLARINEX-treated subjects relative to placebo. No clinically relevant adverse events were reported.

In the event of overdose, consider standard measures to remove any unabsorbed drug. Symptomatic and supportive treatment is recommended. Desloratadine and 3-hydroxydesloratadine are not eliminated by hemodialysis.

Lethality occurred in rats at oral doses of 250 mg/kg or greater (estimated desloratadine and desloratadine metabolite exposures were approximately 120 times the AUC in humans at the recommended daily oral dose). The oral median lethal dose in mice was 353 mg/kg (estimated desloratadine exposures were approximately 290 times the human daily oral dose on a mg/m^2 basis). No deaths occurred at oral doses up to 250 mg/kg in monkeys (estimated desloratadine exposures were approximately 810 times the human daily oral dose on a mg/m^2 basis).

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Iraq's Unruly Century

Ever since Britain carved the nation out of the Ottoman Empire after World War I, the land long known as Mesopotamia has been wracked by instability

BY JONATHAN KANDELL

AS SUMMER TEMPERATURES headed toward 105 degrees on the morning of August 23, 1921, some 1,500 dignitaries assembled in the courtyard of a government building on the banks of the Tigris River for a coronation. British Army officers and colonial administrators mingled with Shiite Arabs from Basra near the Persian Gulf, Kurds from Mosul near Turkey, and Sunni Arabs from Baghdad to witness the installation of a foreign prince, Faisal, as the first king of the newly created nation. "It was an amazing thing to see all Iraq, from North to South, gathered together," wrote Gertrude Bell, a British colonial official who had recommended Faisal to her government and would be his staunchest supporter. "It is the first time it has happened in history."

Faisal's subjects had no anthem, so a band struck up "God

Union Jacks in Baghdad in 1920 (inset) herald British control, as sanctioned by the League of Nations. The next year, Great Britain enthroned Iraq's first king, Faisal (at right, second from left, flanked by British Civil Commissioner Percy Cox and Lieutenant-General Aylmer Haldane).

BETTMANN / CORBIS; P. 45 ILLUSTRATED LONDON NEWS PICTURE LIBRARY

Save the King." The selection aptly symbolized Britain's role not only in inventing the Iraqi government—complete with a figurehead king and soon a new parliament and constitution—but also in orchestrating it for years to come.

On a July morning in Baghdad in 1958, Iraq's constitutional monarchy came to a brutal end when an army faction led by Iraqi Gen. Abdul Karim Qassem stormed the royal palace. In the courtyard, rebel troops killed King Faisal II, the 23-year-old grandson of the first monarch, and a score of men, women and children. Faisal's body was removed to a secret burial place. But no such respect was accorded his uncle and former regent, Abdul Ilah, whom the plotters blamed for the monarchy's pro-British slant; his corpse was thrown to a mob outside the palace gates, dragged around the city and displayed for two days in a public square.

The 1958 coup d'état was not the first upheaval in Iraq's modern political history, which has been marked by nationalist fervor, ethnic uprisings, tribal conflicts, palace treacheries, warfare and deadly oppression. In the monarchy's 37 years, the government cabinet was shuffled more than 50 times. Scholars have offered a catalog of reasons why antiquity's "cradle of civilization" has been so unstable. Some blame geography, pointing out that Iraq, which covers some 168,000 square miles, has a mere 12 miles of shoreline, on the Persian Gulf, making it the most landlocked—and culturally isolated—nation in the Middle East. Others tie Iraq's "bloody history," as many have described it, to the preponderance of groups vying for power. The rivalry goes deeper than Arab versus British, however, or Sunni versus Shiite versus Kurd. As the Kurdish analyst Siyamend Othman said this past November, the "history of Iraq has been conditioned, if not determined, by the conflict between city and countryside," meaning the conflict between an emerging educated class around major urban areas and the old semiliterate rural sheikhdoms.

Britain's experiment in nation-building failed partly because it did not unify the disparate factions, says Charles Tripp, a British citizen and author of the 2000 book, *A History of Iraq.* Instead, Britain seeded unrest by relying on the Sunni minority to run the military and civil service and also by subordinating the northern, Kurdish territory. In addition, he says, Britain's decision to allow tribal sheikhs to maintain order in rural areas heightened tensions by "treating Iraqi society as a collection of groups rather than individuals."

But Adeed Dawisha, an Iraq-born historian and author of *Arab Nationalism in the Twentieth Century,* suggests that Britain failed mainly because it granted Iraq too little autonomy. "From the establishment of the constitutional monarchy in 1921 all the way to its fall in 1958," Dawisha says, "it was very clear that none of the Iraqi governments could carry out any policy against British opposition. And I would put oil [policies] at the top of the list. Oil sales served the interests of Britain, not Iraq."

IT WAS AT THE START of World War I that Britain first occupied Mesopotamia, then part of the Ottoman Empire. The Ottomans had allied with Germany, and Britain justified its 1914 invasion as a move to protect its oil fields in neighboring Iran and its access to Persian Gulf shipping lanes to India. Many Iraqis welcomed the British troops with open arms. The 1916-1918 Arab Revolt against the Ottoman Turks, encouraged by the British military liaison officer T. E. Lawrence (better known as Lawrence of Arabia), raised nationalist Arab expectations in the region. And to court Arabs throughout the Middle East, the British vowed to end three centuries of Ottoman rule, which had grown corrupt, repressive and economically stifling. "Our armies do not come into your cities and lands as conquerors or enemies but as liberators," proclaimed Gen. Stanley Maude, commander of the British forces, as his troops marched into Baghdad in 1917.

In 1920, the newly formed League of Nations granted Britain a "mandate" over Iraq—a kind of pre-independence trusteeship. It gave Britain the right to raise and spend revenues, to appoint officials and to make and enforce laws. (Britain was also mandated to govern Palestine. Another mandate put Syria and Lebanon under French jurisdiction.) Though the mandate approach was flawed, says historian David Fromkin, it appealed to League members because it gave the Allied powers control over territories without endorsing imperialism outright. "The mandate system responded to people who were idealistic and anti-imperialistic and others who felt it was a useful disguise to maintain the old colonial system in place," says Fromkin, author of *A Peace to End All Peace.*

In the end, the boundaries of the new Iraq—a seventh-century name meaning "well-rooted country"—largely mirrored the boundaries of three Ottoman provinces, though that was not the original plan. In 1915 the British had wanted the northernmost province around Mosul to go to France, to serve as a buffer between British holdings and possible Russian expansion. But Britain changed its stance in 1918 in

MIKE REAGAN

JONATHAN KANDELL, a former foreign correspondent for the New York Times, *wrote last for these pages about "Boss" Tweed.*

Bell believed in some self-government for Iraq, but conservatives thought that locals "weren't capable of running their own show."

Dubbed the "uncrowned queen of Iraq," British official Gertrude Bell (with Faisal, second from right, picnicking near the Tigris River in 1921) was the king's adviser. She envisioned Iraq as a "model state" running from the "Persian frontier to the Mediterranean."

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part because of growing appreciation for the importance of oil, believed to be abundant in the Mosul area. (So it is. A well first struck oil in Kirkuk in 1927.) As for Kuwait, it had been virtually a separate British protectorate since 1899 and by World War I was already splitting from the Ottoman province of Basra that would become part of Iraq.

By the time of the 1920 mandate, Iraqi nationalism outweighed pro-British feeling. British officials differed over how to deal with the threat. "There were people like Gertrude Bell," says Phebe Marr, a Washington, D.C.-based historian, "who came to believe in the need for some sort of self-government as soon as possible, and conservatives like Arnold Wilson [Bell's chief], who thought that the local folk weren't capable of running their own show and had to be tutored for a long time."

For a while, Wilson's arguments held sway—to the frustration of Bell and most Iraqis. When an Iraqi delegation met with Wilson, a forceful imperialist then in his 30s, he brushed them off as "ungrateful politicians." He proceeded to turn Iraq into a virtual appendage of Britain's colonial rule in India, bringing troops and administrators over from the subcontinent. Nationalist protests increased, and in the summer of 1920, one leader, Imam Shirazi of Karbala, issued a fatwa, or religious decree, that British rule violated Islamic law. He called for a jihad, or holy war, against the British—and for once Sunnis, Shiites and rival sheikhdoms united in a common cause. The armed rebellion spread from Karbala and Najaf, in the center, to the south of the country, with uprisings by Kurds in the north as well.

Wilson came down hard, ordering aerial bombardments, the machine-gunning of rebels and the destruction of whole towns. "The British overreaction made things much worse," says Janet Wallach, author of a biography of Bell, *Desert Queen*. An aghast Bell wrote to her mother, "We have underestimated the fact that this country is really an inchoate mass of tribes which can't as yet be reduced to any system. The Turks didn't govern and we have tried to govern—and failed." Some 6,000 Iraqis and 500 British and Indian soldiers perished before the revolt was finally put down in October. By then, the British press and public had turned against Colonial Office plans to run Iraq. As *The Times* of London had put it three months earlier, "How much longer are valuable lives to be sacrificed in the vain endeavour to impose upon the Arab population an elaborate and expensive administration which they never asked for and do not want?"

THE FOLLOWING YEAR, a conference in Cairo presided over by Winston Churchill, then colonial secretary for Iraq affairs, determined that a constitutional monarchy was the surest path toward a stable, pros-

perous Iraq. At first glance, Faisal seemed an unlikely choice as ruler. The 35-year-old prince, son of the Sharif Hussein of Mecca (now part of Saudi Arabia), had never set foot in Iraq and spoke an Arabic dialect that was barely intelligible to many of his future subjects. "He had no knowledge of the Iraqi tribes, no friendships with their sheikhs, no familiarity with the terrain—the marshes in the south, the mountains in the north, the grain fields, the river life—and no sense of connection with its ancient past," Wallach writes.

But Bell and other Arabists in the Colonial Office believed that Faisal, who had fought with Lawrence against the Turks, had the charisma to hold the new country together. Also, he traced his lineage to Muhammad, and to emphasize that claim he set out for his new kingdom from Mecca, birthplace of the Prophet. Along his route, chieftains tried to rally crowds—"For the sake of Allah, cheer!"—but most spectators remained unmoved. In a national referendum on his monarchy, Faisal was officially declared to have won 96 percent of the vote, prompting charges that the election was rigged. Still, a relieved Bell wrote in another letter: "We've got our King crowned."

The Oxford-educated Bell served as Faisal's adviser and confidante. During afternoon teas at the palace, she reeled out her vision of a progressive Iraq that could become a beacon for the Middle East. "When we have made Mesopotamia a model state, there is not an Arab of Syria and Palestine who wouldn't want to be part of it," she told the king, adding that she hoped to see Faisal "ruling from the Persian frontier to the Mediterranean."

But Faisal wasn't looking beyond his borders. Ruling his subjects—divided by ethnicity, religion and geography—was trouble enough. Like the Ottomans before them, the British and Faisal, himself a Sunni, found it expedient to favor the more pro-Western Sunni Arabs of Baghdad and the central region, though they accounted for barely 20 percent of the population. More than half of Iraqis were Shiite Arabs, concentrated in the south. Close to 20 percent were Kurds, living mostly in the north. The remainder included Jews, Assyrians and other minorities. "The British turned to the same educated elite—mostly Sunni—who had been trained and used by the Ottomans," says historian Marr. "But a number of them soon proved to be ornery and nationalistic."

It was left to Faisal to deal with the Iraqi nationalists. The British-designed constitution gave him the power to select the prime minister, dissolve parliament and issue decrees when parliament wasn't in session. And no law could be passed without his assent. But Faisal struggled to balance British and Iraqi demands. One moment, he was beseeching British officials not to withdraw from Iraq. Days later, he was refusing to suppress anti-British demonstrations in Baghdad and Basra. "There's always this problem of needing the support of the West and at the same time bowing to the will of the people for independence," says Wallach.

The most insistent issue that the king faced was a new Anglo-Iraq treaty, which would provide for the maintenance of British military bases, give British officials a veto over legislation and perpetuate British influence over financial and international matters for 20 years. Faisal equivocated. In private, he assured Bell that he favored the treaty. But in public speeches, he criticized it for stopping short of removing the mandate. "Gertrude was livid at his double-dealing," Wallach writes. A special Iraqi assembly ratified the treaty in 1924, with Faisal's tacit support. But he had demonstrated that the British could not take him for granted.

Faisal ruled long enough to see the mandate end, in 1932, when Iraq was admitted to the League of Nations as an independent state. (Though Britain's direct participation in local government ended in 1930, pro-British elements would exercise influence until 1958.) Faisal died of a heart attack at age 48 in 1933 while seeing physicians in Switzerland. "He made himself a buffer between Iraqi nationalists and the British," says Tripp, the British historian. "Before he died, he reached out beyond that small Sunni circle he had inherited from the Ottomans and built ties with the Shiites and Kurds."

Today, scholars debate the extent of British influence on Iraq after the mandate. "If Faisal had lived ten more years, the history of Iraq would have been very different," says Edmund Ghareeb, an Iraq-born historian at Georgetown University. "After his death, the British were able to undermine

Rulers of Iraq include Faisal (1921-1933); his son, Ghazi (to 1939); Abdul Karim Qassem, installed in 1958 after a bloody coup; Abdul Salam Arif (1963-1966); his brother Abdul Rahman Arif (to 1968); coup leader Ahmad Hasan al-Bakr (to 1979); and Saddam Hussein. Faisal II (opposite, in 1942) took the throne in 1939 at age 4, ruled through a regent for 14 years and was assassinated in 1958.

HULTON-DEUTSCH COLLECTIONS / CORBIS (2); POPPERFOTO; BETTMANN / CORBIS; POPPERFOTO; ROB WALLS; REUTERS NEWMEDIA / CORBIS; P. 49 CECIL BEATON / SOTHEBY'S PICTURE LIBRARY

the government and the monarchy by constantly putting pressure on them to serve Britain's interests—involving oil, foreign affairs in the gulf region and other issues."

But Reeva S. Simon, a Columbia University historian, says Iraq achieved a measure of independence: "It joined the League of Nations. It had a press that was open and critical of the British. In foreign policy, it did not simply follow the British lead but showed itself to be increasingly pro-German during the 1930s, and invited to Baghdad people who opposed British rule in the Middle East."

In any event, Marr says, Britain's imprint was profound. "Even after the mandate ended, the British presence focused Iraqis constantly on independence. Not on developing the country, not on how to make the constitutional system work better, not on how to integrate Kurds, Shiites and Sunnis. Instead, the question that was always asked was, how can we get rid of the British? As a result, there is even to this day an obsession that there be no foreign control." As Fromkin says, "We tend to overlook a basic rule: that people prefer bad rule by their own kind to good rule by somebody else."

AN UNUSUAL and perceptive Western chronicler of Iraq in that critical era was Freya Stark, 36, an English adventuress and journalist, who arrived in Baghdad in the fall of 1929 with ten pounds in her pocket and a conviction that "the most interesting things in the world were likely to happen in the neighborhood of oil." She was excited by Iraq's ancient glories, writes her biographer, Jane Fletcher Geniesse. Those included Babylon, 50 miles south of Baghdad; the ruins of Ur, where Abraham was born, and of Uruk, not far from the banks of the Euphrates; and the Assyrian cities of Khorsabad and Nineveh.

In Baghdad itself, Stark sought out traces of the eighth-century caliphate that had turned the city into an extraordinary intellectual and artistic center—at a time when Europe plunged into its dark ages. "What you first see of the Caliphs' city is a most sordid aspect," she wrote in a dispatch to the *Baghdad Times*. "The crowd looks unhealthy and sallow, the children are pitiful, the shops are ineffective compromises with Europe; and the dust is wicked." But Stark wasn't put off. At dawn, she walked the narrow, winding alleys under latticed balconies. She strolled through the bazaars where Muslims, Indians, Jews and Armenians hawked silks, velvets, indigo and spices.

Fluent in Arabic, she interviewed the women of the harems. She studied the Koran and, veiled from head to foot, slipped into a Muslim shrine. Shunning the suburban bungalows of the Western community, Stark initially settled across the Tigris in a slum—the prostitutes' quarter, it turned out, to her amusement. An English acquaintance accused her of "lowering the prestige of British womanhood."

Most important, Stark witnessed Iraq's mounting rebellion. In the 1930s, the Baghdad press railed against overbearing British advisers in government and the Royal Air Force's control of bases around Baghdad and Basra. The British found few defenders even among the Iraqi elite who owed the British their status and prosperity. "To be anti-British made you successful either as a lawyer, a politician or a journalist," wrote Stark.

It also boosted the king, Ghazi, Faisal's son, who assumed the throne in 1933 at age 21. Ghazi had neither his father's diplomatic skills nor his work ethic. He liked partygoing more than governing. Still, his ability to rally subjects with incendiary speeches broadcast over the palace radio station troubled British functionaries. They worried about his repeated denunciations of British control over Kuwait—which Ghazi claimed was a province of Iraq—and his attacks on the Kuwaiti ruling family. But the rhetoric thrilled young Iraqis.

Great Britain reasserted control over Iraq in World War II, crushing a 1941 coup and protecting assets (a Kirkuk oil field in 1945) in which British companies had a stake.

Six years after becoming king, Ghazi crashed his sports car into a utility pole in Baghdad after an evening of drinking. His two British physicians summoned an Iraqi colleague to the scene of the mortally wounded king. "I was fearful lest, if no Iraqi doctor was in attendance, Anglophobic mischief-makers might originate canards to the effect that [we] were responsible for the king's demise," Dr. Harry C. Sinderson, the monarch's chief physician, wrote in his memoirs. Even so, violent street demonstrations erupted in Baghdad the next day. In Mosul, a mob killed the British consul. For years, many Iraqis insisted that Ghazi was killed by the British and their allies. He was succeeded by his son Faisal II.

The conspiracy theories also stirred foment in the Iraqi Army, though the British largely missed the warning signs. "For all their many advisers in the Iraqi government, the British didn't show much interest in military affairs," says Simon. "Certainly, they didn't imagine that army officers would interfere directly in politics."

BRITAIN'S PRESENCE IN IRAQ was not the only thing that aroused Iraqi anger. By the 1930s, Arab leaders were also angered by the growing numbers of European Jews migrating to Palestine, a British mandate until 1948. When the British suppressed a revolt by Palestinian Arabs in 1939, Iraqi Army officers invited the defeated leader,

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Syncopal episodes have been reported in association with the use of ARICEPT®. ***Gastrointestinal Conditions:*** Through their primary action, cholinesterase inhibitors may be expected to increase gastric acid secretion due to increased cholinergic activity. Therefore, patients should be monitored closely for symptoms of active or occult gastrointestinal bleeding, especially those at increased risk for developing ulcers, e.g., those with a history of ulcer disease or those receiving concurrent nonsteroidal anti-inflammatory drugs (NSAIDS). Clinical studies of ARICEPT® have shown no increase, relative to placebo, in the incidence of either peptic ulcer disease or gastrointestinal bleeding. ARICEPT®, as a predictable consequence of its pharmacological properties, has been shown to produce diarrhea, nausea and vomiting. These effects, when they occur, appear more frequently with the 10 mg/day dose than with the 5 mg/day dose. In most cases, these effects have been mild and transient, sometimes lasting one to three weeks, and have resolved during continued use of ARICEPT®. ***Genitourinary:*** Although not observed in clinical trials of ARICEPT®, cholinomimetics may cause bladder outflow obstruction. ***Neurological Conditions:*** Seizures: Cholinomimetics are believed to have some potential to cause generalized convulsions. However, seizure activity also may be a manifestation of Alzheimer's Disease. ***Pulmonary Conditions:*** Because of their cholinomimetic actions, cholinesterase inhibitors should be prescribed with care to patients with a history of asthma or obstructive pulmonary disease. **PRECAUTIONS Drug-Drug Interactions** ***Drugs Highly Bound to Plasma Proteins:*** Drug displacement studies have been performed *in vitro* between this highly bound drug (96%) and other drugs such as furosemide, digoxin, and warfarin. ARICEPT® at concentrations of 0.3-10 µg/mL did not affect the binding of furosemide (5 µg/mL), digoxin (2 ng/mL), and warfarin (3 µg/mL) to human albumin. Similarly, the binding of ARICEPT® to human albumin was not affected by furosemide, digoxin, and warfarin. ***Effect of ARICEPT® on the Metabolism of Other Drugs:*** No *in vivo* clinical trials have investigated the effect of ARICEPT® on the clearance of drugs metabolized by CYP 3A4 (e.g. cisapride, terfenadine) or by CYP 2D6 (e.g. imipramine). However, *in vitro* studies show a low rate of binding to these enzymes (mean Ki about 50-130 µM), that, given the therapeutic plasma concentrations of donepezil (164 nM), indicates little likelihood of interference. Whether ARICEPT® has any potential for enzyme induction is not known. ***Effect of Other Drugs on the Metabolism of ARICEPT®:*** Ketoconazole and quinidine, inhibitors of CYP450, 3A4 and 2D6, respectively, inhibit donepezil metabolism *in vitro*. Whether there is a clinical effect of these inhibitors is not known. Inducers of CYP 2D6 and CYP 3A4 (e.g., phenytoin, carbamazepine, dexamethasone, rifampin, and phenobarbital) could increase the rate of elimination of ARICEPT®. ***Use with Anticholinergics:*** Because of their mechanism of action, cholinesterase inhibitors have the potential to interfere with the activity of anticholinergic medications. ***Use with Cholinomimetics and Other Cholinesterase Inhibitors:*** A synergistic effect may be expected when cholinesterase inhibitors are given concurrently with succinylcholine, similar neuromuscular blocking agents or cholinergic agonists such as bethanechol. **Carcinogenesis, Mutagenesis, Impairment of Fertility** Carcinogenicity studies of donepezil have not been completed. Donepezil was not mutagenic in the Ames reverse mutation assay in bacteria. In the chromosome aberration test in cultures of Chinese hamster lung (CHL) cells, some clastogenic effects were observed. Donepezil was not clastogenic in the *in vivo* mouse micronucleus test. Donepezil had no effect on fertility in rats at doses up to 10 mg/kg/day (approximately 8 times the maximum recommended human dose on a mg/m² basis). **Pregnancy** ***Pregnancy Category C:*** Teratology studies conducted in pregnant rats at doses up to 16 mg/kg/day (approximately 13 times the maximum recommended human dose on a mg/m² basis) and in pregnant rabbits at doses up to 10 mg/kg/day (approximately 16 times the maximum recommended human dose on a mg/m² basis) did not disclose any evidence for a teratogenic potential of donepezil. However, in a study in which pregnant rats were given up to 10 mg/kg/day (approximately 8 times the maximum recommended human dose on a mg/m² basis) from day 17 of gestation through day 20 postpartum, there was a slight increase in still births and a slight decrease in pup survival through day 4 postpartum at this dose; the next lower dose tested was 3 mg/kg/day. There are no adequate or well-controlled studies in pregnant women. ARICEPT® should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. **Nursing Mothers** It is not known whether donepezil is excreted in human breast milk. ARICEPT® has no indication for use in nursing mothers. **Pediatric Use** There are no adequate and well-controlled trials to document the safety and efficacy of ARICEPT® in any illness occurring in children. **ADVERSE REACTIONS Adverse Events Leading to Discontinuation** The rates of discontinuation from controlled clinical trials of ARICEPT® due to adverse events for the ARICEPT® 5 mg/day treatment groups were comparable to those of placebo-treatment groups at approximately 5%. The rate of discontinuation of patients who received 7-day escalations from 5 mg/day to 10 mg/day, was higher at 13%. The most common adverse events leading to discontinuation, defined as those occurring in at least 2% of patients and at twice the incidence seen in placebo patients, are shown in Table 1.

Table 1. Most Frequent Adverse Events Leading to Withdrawal from Controlled Clinical Trials by Dose Group

Dose Group	Placebo	5 mg/day ARICEPT®	10 mg/day ARICEPT®
Patients Randomized	355	350	315
Event/%Discontinuing			
Nausea	1%	1%	3%
Diarrhea	0%	<1%	3%
Vomiting	<1%	<1%	2%

Most Frequent Adverse Clinical Events Seen in Association with the Use of ARICEPT® The most common adverse events, defined as those occurring at a frequency of at least 5% in patients receiving 10 mg/day and twice the placebo rate, are largely predicted by ARICEPT®'s cholinomimetic effects. These include nausea, diarrhea, insomnia, vomiting, muscle cramp, fatigue and anorexia. These adverse events were often of mild intensity and transient, resolving during continued ARICEPT® treatment without the need for dose modification. There is evidence to suggest that the frequency of these common adverse events may be affected by the rate of titration. An open-label study was conducted with 269 patients who received placebo in the 15- and 30-week studies. These patients were titrated to a dose of 10 mg/day over a 6-week period. The rates of common adverse events were lower than those seen in patients titrated to 10 mg/day over one week in the controlled clinical trials and were comparable to those seen in patients on 5 mg/day. See Table 2 for a comparison of the most common adverse events following one and six week titration regimens.

Table 2. Comparison of Rates of Adverse Events in Patients Titrated to 10 mg/day Over 1 and 6 Weeks

	No titration		One-week titration	Six-week titration
Adverse Event	**Placebo (n=315)**	**5 mg/day (n=311)**	**10 mg/day (n=315)**	**10 mg/day (n=269)**
Nausea	6%	5%	19%	6%
Diarrhea	5%	8%	15%	9%
Insomnia	6%	6%	14%	6%
Fatigue	3%	4%	8%	3%
Vomiting	3%	3%	8%	5%
Muscle cramps	2%	6%	8%	3%
Anorexia	2%	3%	7%	3%

Adverse Events Reported in Controlled Trials The events cited reflect experience gained under closely monitored conditions of clinical trials in a highly selected patient population. In actual clinical practice or in other clinical trials, these frequency estimates may not apply, as the conditions of use, reporting behavior, and the kinds of patients treated may differ. Table 3 lists treatment emergent signs and symptoms that were reported in at least 2% of patients in placebo-controlled trials who received ARICEPT® and for which the rate of occurrence was greater for ARICEPT® assigned than placebo assigned patients. In general, adverse events occurred more frequently in female patients and with advancing age.

Table 3. Adverse Events Reported in Controlled Clinical Trials in at Least 2% of Patients Receiving ARICEPT® (donepezil HCl) and at a Higher Frequency than Placebo-treated Patients

Body System/Adverse Event	Placebo (n=355)	ARICEPT® (n=747)
Percent of Patients with any Adverse Event	**72**	**74**
Body as a Whole		
Headache	9	10
Pain, various locations	8	9
Accident	6	7
Fatigue	3	5
Cardiovascular System		
Syncope	1	2
Digestive System		
Nausea	6	11
Diarrhea	5	10
Vomiting	3	5
Anorexia	2	4
Hemic and Lymphatic System		
Ecchymosis	3	4
Metabolic and Nutritional Systems		
Weight Decrease	1	3
Musculoskeletal System		
Muscle Cramps	2	6
Arthritis	1	2
Nervous System		
Insomnia	6	9
Dizziness	6	8
Depression	<1	3
Abnormal Dreams	0	3
Somnolence	<1	2
Urogenital System		
Frequent Urination	1	2

Other Adverse Events Observed During Clinical Trials ARICEPT® has been administered to over 1700 individuals during clinical trials worldwide. Approximately 1200 of these patients have been treated for at least 3 months and more than 1000 patients have been treated for at least 6 months. Controlled and uncontrolled trials in the United States included approximately 900 patients. In regards to the highest dose of 10 mg/day, this population includes 650 patients treated for 3 months, 475 patients treated for 6 months and 116 patients treated for over 1 year. The range of patient exposure is from 1 to 1214 days. Treatment emergent signs and symptoms that occurred during 3 controlled clinical trials and two open-label trials in the United States were recorded as adverse events by the clinical investigators using terminology of their own choosing. To provide an overall estimate of the proportion of individuals having similar types of events, the events were grouped into a smaller number of standardized categories using a modified COSTART dictionary and event frequencies were calculated across all studies. These categories are used in the listing below. The frequencies represent the proportion of 900 patients from these trials who experienced that event while receiving ARICEPT®. All adverse events occurring at least twice are included, except for those already listed in Tables 2 or 3, COSTART terms too general to be informative, or events less likely to be drug caused. Events are classified by body system and listed using the following definitions: *frequent adverse events*—those occurring in at least 1/100 patients; *infrequent adverse events*—those occurring in 1/100 to 1/1000 patients. These adverse events are not necessarily related to ARICEPT® treatment and in most cases were observed at a similar frequency in placebo-treated patients in the controlled studies. No important additional adverse events were seen in studies conducted outside the United States. **Body as a Whole:** *Frequent:* influenza, chest pain, toothache; *Infrequent:* fever, edema face, periorbital edema, hernia hiatal, abscess, cellulitis, chills, generalized coldness, head fullness, listlessness. **Cardiovascular System:** *Frequent:* hypertension, vasodilation, atrial fibrillation, hot flashes, hypotension; *Infrequent:* angina pectoris, postural hypotension, myocardial infarction, AV block (first degree), congestive heart failure, arteritis, bradycardia, peripheral vascular disease, supraventricular tachycardia, deep vein thrombosis. **Digestive System:** *Frequent:* fecal incontinence, gastrointestinal bleeding, bloating, epigastric pain; *Infrequent:* eructation, gingivitis, increased appetite, flatulence, periodontal abscess, cholelithiasis, diverticulitis, drooling, dry mouth, fever sore, gastritis, irritable colon, tongue edema, epigastric distress, gastroenteritis, increased transaminases, hemorrhoids, ileus, increased thirst, jaundice, melena, polydipsia, duodenal ulcer, stomach ulcer. **Endocrine System:** *Infrequent:* diabetes mellitus, goiter. **Hemic and Lymphatic System:** *Infrequent:* anemia, thrombocythemia, thrombocytopenia, eosinophilia, erythrocytopenia. **Metabolic and Nutritional Disorders:** *Frequent:* dehydration; *Infrequent:* gout, hypokalemia, increased creatine kinase, hyperglycemia, weight increase, increased lactate dehydrogenase. **Musculoskeletal System:** *Frequent:* bone fracture; *Infrequent:* muscle weakness, muscle fasciculation. **Nervous System:** *Frequent:* delusions, tremor, irritability, paresthesia, aggression, vertigo, ataxia, increased libido, restlessness, abnormal crying, nervousness, aphasia; *Infrequent:* cerebrovascular accident, intracranial hemorrhage, transient ischemic attack, emotional lability, neuralgia, coldness (localized), muscle spasm, dysphoria, gait abnormality, hypertonia, hypokinesia, neurodermatitis, numbness (localized), paranoia, dysarthria, dysphasia, hostility, decreased libido, melancholia, emotional withdrawal, nystagmus, pacing. **Respiratory System:** *Frequent:* dyspnea, sore throat, bronchitis; *Infrequent:* epistaxis, post nasal drip, pneumonia, hyperventilation, pulmonary congestion, wheezing, hypoxia, pharyngitis, pleurisy, pulmonary collapse, sleep apnea, snoring. **Skin and Appendages:** *Frequent:* pruritus, diaphoresis, urticaria; *Infrequent:* dermatitis, erythema, skin discoloration, hyperkeratosis, alopecia, fungal dermatitis, herpes zoster, hirsutism, skin striae, night sweats, skin ulcer. **Special Senses:** *Frequent:* cataract, eye irritation, vision blurred; *Infrequent:* dry eyes, glaucoma, earache, tinnitus, blepharitis, decreased hearing, retinal hemorrhage, otitis externa, otitis media, bad taste, conjunctival hemorrhage, ear buzzing, motion sickness, spots before eyes. **Urogenital System:** *Frequent:* urinary incontinence, nocturia; *Infrequent:* dysuria, hematuria, urinary urgency, metrorrhagia, cystitis, enuresis, prostate hypertrophy, pyelonephritis, inability to empty bladder, breast fibroadenosis, fibrocystic breast, mastitis, pyuria, renal failure, vaginitis. **Postintroduction Reports** Voluntary reports of adverse events temporally associated with ARICEPT® that have been received since market introduction that are not listed above, and that there is inadequate data to determine the causal relationship with the drug include the following: abdominal pain, agitation, cholecystitis, confusion, convulsions, hallucinations, heart block (all types), hemolytic anemia, hepatitis, hyponatremia, neuroleptic malignant syndrome, pancreatitis, and rash. **OVERDOSAGE Because strategies for the management of overdose are continually evolving, it is advisable to contact a Poison Control Center to determine the latest recommendations for the management of an overdose of any drug.** As in any case of overdose, general supportive measures should be utilized. Overdosage with cholinesterase inhibitors can result in cholinergic crisis characterized by severe nausea, vomiting, salivation, sweating, bradycardia, hypotension, respiratory depression, collapse and convulsions. Increasing muscle weakness is a possibility and may result in death if respiratory muscles are involved. Tertiary anticholinergics such as atropine may be used as an antidote for ARICEPT® overdosage. Intravenous atropine sulfate titrated to effect is recommended: an initial dose of 1.0 to 2.0 mg IV with subsequent doses based upon clinical response. Atypical responses in blood pressure and heart rate have been reported with other cholinomimetics when co-administered with quaternary anticholinergics such as glycopyrrolate. It is not known whether ARICEPT® and/or its metabolites can be removed by dialysis (hemodialysis, peritoneal dialysis, or hemofiltration). Dose-related signs of toxicity in animals included reduced spontaneous movement, prone position, staggering gait, lacrimation, clonic convulsions, depressed respiration, salivation, miosis, tremors, fasciculation and lower body surface temperature. **DOSAGE AND ADMINISTRATION** The dosages of ARICEPT® shown to be effective in controlled clinical trials are 5 mg and 10 mg administered once per day. The higher dose of 10 mg did not provide a statistically significantly greater clinical benefit than 5 mg. There is a suggestion, however, based upon order of group mean scores and dose trend analyses of data from these clinical trials, that a daily dose of 10 mg of ARICEPT® might provide additional benefit for some patients. Accordingly, whether or not to employ a dose of 10 mg is a matter of prescriber and patient preference. Evidence from the controlled trials indicates that the 10 mg dose, with a one week titration, is likely to be associated with a higher incidence of cholinergic adverse events than the 5 mg dose. In open label trials using a 6 week titration, the frequency of these same adverse events was similar between the 5 mg and 10 mg dose groups. Therefore, because steady state is not achieved for 15 days and because the incidence of untoward effects may be influenced by the rate of dose escalation, treatment with a dose of 10 mg should not be contemplated until patients have been on a daily dose of 5 mg for 4 to 6 weeks. ARICEPT® should be taken in the evening, just prior to retiring, and may be taken with or without food.

Eisai Inc. Teaneck, NJ 07666 Pfizer U.S. Pharmaceuticals New York, NY 10017 200177 Revised December 2000

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the Mufti of Jerusalem, to live in Baghdad. Then, as World War II began, Iraqi antipathy to Britain turned into support for Hitler. "It was widely acknowledged that most of the junior officers in the Iraqi army are pro-German and anti-British," Paul Knabenshue, a U.S. diplomat in Baghdad, wrote in May 1940. Iraq attempted to ally itself with Germany and in 1941 threatened to fire on British planes at an airfield near Baghdad.

In April 1941, Rashid Ali, a civilian figurehead for an Iraqi Army faction led by four colonels staged a coup d'état. British Royal Air Force troops stationed on the outskirts of Baghdad held the Iraqi Army at bay while British reinforcements from India landed in Basra and marched north.

In Baghdad, some 400 British nationals and their Iraqi sympathizers sought refuge in the British Embassy. The last person admitted into the compound was Freya Stark. Previously disdained by many compatriots, she was now hailed as a savior. "With her fluent local Arabic and her aplomb and bonhomie, she became our most useful contact at our gates with the Iraqi police posted here, and helped us to buy fresh meat and vegetables to leaven our Spartan fare," one observer recalled. Her good relations with the guards may have saved the embassy from mobs. "We could see the crowds from the upper town, incited by speeches of the Mufti and their own radio, advancing with banners and drums and dancing figures silhouetted against the sky, towards our gates," Stark wrote.

By early June, British forces had taken control of Baghdad. Rashid Ali's two-month rule ended when he fled to Berlin. The four Iraqi colonels behind his coup were captured and hanged. In retaliation, outraged Iraqi mobs stormed the Jewish quarter, presumed to be pro-British, and killed 179 men, women and children, injuring hundreds more.

Saddam Hussein, a child at the time, would later say that Rashid Ali's rise and fall affected him deeply because the uncle who raised him was an army officer whose career ended when the coup was crushed.

Anti-British passions were further inflamed by the outbreak, in 1948, of war in Palestine, where Iraqi troops fought on the Arab side against the Israelis, whose ultimate victory, most Iraqis believed, could not have been achieved without British (and American) assistance. They were inflamed again in 1956 by the British role in wresting the Suez Canal back from Egyptian president Gamal Abdel Nasser. Then, the Qassem coup d'état in 1958 destroyed the monarchy once and for all. Ilah, the former regent, and Prime Minister Nuri Said were killed because they were felt to have been too eager to please the British by executing the plotters of Rashid Ali's coup 17 years earlier.

The massacre of the Iraqi royal family left two major legacies of Great Britain's four-decades-long involvement in Iraq: the nation retained essentially the same boundaries that Britain had traced in the early 1920s, and the Sunni minority held on to power.

THE MONARCHY'S COLLAPSE was followed by a decade of even greater instability, ending with a coup in 1968 by army officers linked to the Baathists, a pan-Arab socialist movement that opponents have described as neo-Fascist. A jubilant Saddam Hussein, 31, rode through Baghdad atop a tank. His kinsman, Gen. Ahmad Hassan al-Bakr, had led the coup and became president. Like Bakr, Hussein was from Tikrit, a Sunni town north of Baghdad that historically had fielded a disproportionate share of army officers. But Hussein did not come up through the military ranks in the usual way. After high school in Baghdad, he earned a living as a street tough for politicians, organizing gangs that disrupted opponents' political rallies and beating up shopkeepers whose stores remained open during strikes. Hussein graduated to assassin and spent almost two years in prison and in exile for political murders or attempted killings.

Saddam Hussein's regime killed many thousands of Iraqis and Kuwaitis and defied the U.N. Hussein built another monument to himself in Baghdad this past February.

But his ferocity and cunning had impressed General Bakr, who, as president, appointed him to run the national security apparatus. In that capacity he set out to eliminate his main rivals, and he placed relatives and fellow Tikritis in positions of power and influence in the Baath Party, the armed forces and the government. As Bakr's power broker, Hussein nationalized foreign oil holdings in 1972, then accepted acclaim as Iraq's annual oil revenues rose eightfold, to $8 million over the next three years, then tripled over the next five. Hussein then oversaw state investments in education, health, transportation, agriculture and industry, drawing praise as a model for the Middle East.

When, in 1979, Hussein became president following Bakr's "resignation"—Hussein almost certainly engineered it—many Iraqis thought he would lead them into prosperity. (Bakr died in 1982.) Instead, Hussein, after having his rivals killed, ruled despotically for nearly a quarter of a century, waging war on Iran (with American backing) and killing many thousands of Iraqis, including thousands of Kurds killed by chemical weapons. Hussein dragged his oil-rich, once-ascendent nation into poverty, and his pursuit of weapons of mass destruction put him on a collision course with the world's lone superpower. ○

BRUNO STEVENS / COSMOS / AURORA

FINALLY, THE TOP OF THE WORLD

A witness to the first ascent of Mount Everest 50 years ago this month recalls Edmund Hillary's aplomb, Tenzing Norgay's grace and other glories of the last earthly adventure

BY JAN MORRIS

FIFTY YEARS AGO, on May 29, 1953, two men stood on the summit of Mount Everest, Chomolungma (Goddess Mother) to its own people. At 29,035 feet it is the highest spot on earth, and nobody had ever been up there before. Above it there was only space.

Not many modern adventures, at least of the physical, peaceable kind, ever achieve the status of allegory. It was easier in the old days. Nobody would deny profounder resonances to the journeys that first demonstrated the shapes of continents, joined old worlds with new and were immortalized not merely in history, but in art. In our own time, though, perhaps only two such exploits have been so charged with meaning that they have become in some sense transcendental. One was, of course, that ultimate feat of exploration, that giant step for all mankind, the arrival of *Apollo 11* upon the moon. The other was the first ascent of Mount Everest.

You may think this a rather presumptuous claim. The moon was unique, Everest only one of a hundred great mountains. It may suggest to you the definition of

The mountain Tibetans call "Goddess Mother" (above, in an 1857 engraving) was named after British surveyor George Everest. After 11 tries in 32 years by various groups, a British team (right) reached the summit in 1953.

allegory offered by Robert Musil, the Austrian novelist: something supposed to mean more than it has any right to mean. Everest was the final terrestrial objective. Expeditions had been trying to climb it for 30 years and more. Still, it was only a slab of rock, and even one of its unsuccessful challengers was able to console himself with the thought that getting to the top of it would have been "perfectly useless to everybody, including the person who did it."

PERFECTLY USELESS! So it was. The first ascent of Mount Everest contributed nothing new to our knowledge of the world, let alone the universe. Yet the moment the news of the ascent reached the world at large it entered the realm of allegory. To this day people of a certain age remember that moment rather as they remember, say, the death of John F. Kennedy—meaning something more than it had any right to mean, more than just an event, but the reflection of a time.

It was allegorical in many senses. The mountain stood on one of the earth's frontiers, where the Himalayan range separates the Tibetan plateau from the vast Indian plains below. The adventure was symbolically a last earthly adventure, before humanity's explorers went off into space. The expedition that first climbed Everest was British, and a final flourish of the British Empire, which had for so long been the world's paramount power. And as it happened, the news of its success reached London, the capital of that empire, on the very morning a new British queen, Elizabeth II, was being crowned in Westminster Abbey. Almost everything meant more than it had a right to mean, on Everest in 1953.

It did not always seem so at the time. When those two men came down from the mountaintop, all one of them said was: "Well, we've knocked the bastard off."

MANY HUNDREDS OF PEOPLE from all parts of the world have climbed to Everest's summit by now, and hundreds of thousands have trekked through its foothills, but in 1953 the region was still almost unknown to foreigners. No tourists and very few adventurers had ever been there. The mountain was bang on the line between Tibet and Nepal, two of the world's most shuttered states, but during the 19th century the British, then the rulers of India, had regarded them as more or less buffer states of their own empire, and had seldom encouraged exploration. Everest had first been identified and measured from a distance, when a surveyor working far away in Dehra Dun, in the Indian foothills, had realized it to be the highest of all mountains, and in 1856 it had been named after Sir George Everest, former surveyor-general of British India. It was known to be holy to the people living around it, it looked celestial from afar, and so it became an object of tantalizing mystery, an ultimate geographical presence.

Nobody tried to climb it—certainly not the Sherpa people who lived at its foot—until 1921, when a first British expedition was allowed to have a go. Between the two world wars five other British attempts were made. All went to Everest via Tibet, attacking the northern side of the mountain, but after World War II, Tibet was closed to foreigners, and for the first time climbers approached the mountain from the south, in Nepal. By then the British Raj had abdicated, and in 1952 a Swiss expedition was the first to make a full-scale attempt from the Nepali side. It failed (but only just). So there arose, in the following year, a last chance for the British, as their empire lost its vigor, its power and its purpose, to be the first on top.

> THE BRITISH long thought that if it was not exactly their right to be the first on top of the world, it was their duty. They would be ashamed if some damned foreigners beat them to it.

The empire was fading not in despair, but in regret and impoverishment. The British no longer wished to rule the world, but they were understandably sad to see their national glory diminished. They hoped that by one means or another their influence among the nations might survive—by the "special relationship" with the United States, by the genial but somewhat flaccid device of the Commonwealth, or simply by means of the prestige they had accumulated in war as in peace during their generations of supremacy. When in 1952 the ailing King George VI died, they pinned their hopes of revived fortunes upon his daughter, the future Queen Elizabeth II, who would accede to the throne in June of the following year. All was not lost! It might be the start, trumpeted the tabloids, of a New Elizabethan Age to restore the dashing splendors of Drake, Raleigh and the legendary British sea dogs.

With this fancy at least in the backs of their minds, the elders of the Royal Geographical Society (RGS) in London, who had organized all the previous British expeditions to Everest, made their plans for a final grand-slam assault upon the mountain. The British had long thought that if it was not exactly their right to be the first on the top of the world, it was in a way their duty. Everest wasn't in the British Empire, but it had been within a British sphere of influence, as the imperialists liked to say, and so they considered it a quasi-imperial peak. As early as 1905, Lord Curzon, the inimitably imperial viceroy of India, had declared it "a reproach" that the British had made no attempt to reach that summit of summits; nearly half a century later the British public at large would

JAN MORRIS, who lives in Wales, is the author of more than 40 books, including a memoir of the 1953 expedition, Coronation Everest.

P. 54 GRANGER COLLECTION, NEW YORK; P. 55 AND 57 TOP AND BOTTOM LEFT: ROYAL GEOGRAPHICAL SOCIETY; BETTMANN / CORBIS

The 1953 British expedition (top, Hillary stands fifth from the left) included a Gurkha soldier, a brain surgeon, a poet and 350 Sherpa climbers and porters. "The most important thing is for you chaps to come back safely," leader John Hunt (standing sixth from the left) told Hillary and Tenzing (left). Hillary and Louise Rose's September 1953 wedding in Auckland attracted 1,500 well-wishers.

have been ashamed if some damned foreigners had beaten them to it.

So it was an emblematically powerful expedition that the RGS sponsored this time. It had a strong military element—most of its climbers had served in the armed forces. Most had been to one of the well-known English private schools; several were at Oxford or Cambridge. Two were citizens of that most loyally British of the British dominions, New Zealand. One was from Nepal, and therefore seemed a sort of honorary Briton. Nearly all of them had previous Himalayan experience, and professionally they included a doctor, a physicist, a physiologist, a photographer, a beekeeper, an oil company executive, a brain surgeon, an agricultural statistician and a schoolmaster-poet—a poetic presence was essential to the traditional ethos of British mountain climbing. A stalwart and practiced company of Sherpa mountain porters, many of them veterans of previous British climbing parties, was recruited in Nepal. The expedition was, in short, an imperial paradigm in itself, and to complete it a reporter from the London *Times*, in those days almost the official organ of Britishness in its loftiest measures, was invited to join the expedition and chronicle its progress.

The leader of this neo-imperial enterprise was Col. John Hunt, King's Royal Rifle Corps, a distinguished mountaineer, one of Montgomery's staff officers in World War II, and an old India hand. The reporter from *The Times* was me.

TENZING, the leader of the Sherpas, was elegant of manner and bearing. There was something princely to him, and he was, as anyone could see, the right man for the job.

THREE MEN, in the end, came to dominate the exploit. Hunt himself was the very incarnation of a leader, wiry, grizzled, often wry and utterly dedicated. Whatever he was asked to do, it seemed to me, he would do it with earnest and unquenchable zeal, and more than anyone else he saw this particular task as something much grander than a sporting event. As something of a visionary, even a mystic, he saw it as expressing a yearning for higher values, nobler summits altogether. He might have agreed with an earlier patron of Everest expeditions, Francis Younghusband of the RGS, who considered them pilgrimages—"towards utter holiness, towards the most complete truth." Certainly when Hunt came to write a book about the adventure, he declined to talk about a *conquest* of the mountain, and simply called it *The Ascent of Everest*.

The second of the triumvirate was Tenzing Norgay, the charismatic leader of the Sherpas with the expedition, and a famously formidable climber—he had climbed high on the northern flank of Everest in 1938, on the southern flank in 1952, and knew the mountain as well as anyone. Tenzing could not at that time read or write, but his personality was wonderfully polished. As elegant of manner as of bearing, there was something princely to him. He had never set foot in Europe or America then, but in London later that year I was not at all surprised to hear a worldly man-about-town, eyeing Tenzing across a banquet table, say how good it was to see that "Mr. Tenzing knew a decent claret when he had one." When the time came for Hunt to select the final assault parties, the pairs of climbers who would make or break the expedition, he chose Sherpa Tenzing for one of them partly, I am sure, for postimperial political reasons, but chiefly because he was, as anyone could see, the right man for the job.

His companion to the summit was one of the New Zealanders, emphasizing that this was a British expedition in the most pragmatic sense—for in those days New Zealanders, like Australians and even most Canadians, thought themselves as British as the islanders themselves. Edmund Hillary the beekeeper was a big, burly, merry, down-to-earth fellow who had learned to climb in his own New Zealand Alps but had climbed in Europe and in the Himalayas too. He was an obvious winner—not reserved and analytical like Hunt, not aristocratically balanced like Tenzing, but your proper good-humored, impeturbable colonial boy. There was nobody, I used to think, that I would rather have on my side in the battle of life, let alone on a climb up a mountain.

The expedition went like clockwork. It was rather like a military campaign. Hunt took few chances in his organization, and tested everything first. He'd brought two kinds of oxygen equipment to the mountain, for instance, and climbers tried them both. Camps established on the mountain flanks enabled men to haul equipment up in stages, and when they were sick or overtired during those three months on the mountain, they went down to the valleys to rest. Two pairs of climbers made final assaults. The first team, Thomas Bourdillon and Charles Evans, turned back 285 feet from the top. It was late in the day, and the exhausted climbers saw the final approach as too risky. Nobody was killed or injured on the 1953 British Everest Expedition.

EVEREST WAS NOT the most difficult mountain in the world. Many were technically harder to climb. Once more it was a matter of allegory that made its ascent so wonderful an event. It was as though down all the years some ectoplasmic barrier had surrounded its peak, and piercing it had released an indefinable glory. It was Ed Hillary the New

"OK?" Hillary (with climbers at 21,000 feet, right) asked Tenzing before the final ascent. "*Acha*," he said. Yes. Ready.

ROYAL GEOGRAPHICAL SOCIETY

Zealander who said they'd knocked the bastard off, but he meant it in no irreverent sense—more in affectionate respect. For myself, cogitating these mysteries in the course of the expedition, and gazing at the spiraling plume of snow that habitually blew like a talisman from Everest's summit, agnostic though I was I did begin to fancy some supernatural presence up there. It was not the most beautiful of mountains—several of its neighbors were shapelier—but whether in the fact or simply in the mind, it did seem obscurely *nobler* than any of them.

I doubt if such muzzy notions occur to the multitudinous trekkers who today go to Everest, or the people who climb it on commercially run expeditions. That barrier has long been pierced, that old glory has been expended, and a perennial problem now is the litter that disfigures the slopes of the mountain along with the occasional corpses of its casualties. But in 1953 it was pristine still—the country marvelously unfamiliar, the people delightfully themselves, and our expedition, it seemed to me, entirely amiable. Ours was not only, I thought, the last innocent adventure of the British Empire; it was perhaps the last truly innocent adventure of all.

For in those days, by and large, mountaineering was not half so competitive a sport as it would later become. Nationalism had crept into it, indeed, and nations did rival each other for the prize of this summit or that, as they had once competed for the South Pole or the headwaters of the Nile. But climbing mountains was still by and large an amateur occupation, a grand hobby, still a very *English* sort of hobby, actually. When, between the wars, a Sherpa porter turned up for an expedition laden with expensive equipment, the Britons of the party nicknamed him pointedly "The Foreign Sportsman."

Everest 1953, I fear, did much to corrupt all this. Nationalists squabbled with a vengeance for the honors of success on the mountain, and Tenzing in particular was the subject of their rivalries. He was Asian, was he not, so what right had the imperialists to call it a British expedition? Why was it always Hillary and Tenzing, never Tenzing and Hillary? Which of them got to the top first, anyway? All this came as a shock to the climbers, and even more to me. When it came to such matters I was the most amateurish of them all, and it had never occurred to me to ask whether Hillary the Antipodean or Tenzing the Asian had been the first to step upon that summit.

I WAS NOT, HOWEVER, an amateur at my trade. Just as the physiologist had been busy all those months recording people's metabolisms, and the poet had been writing lyrics, and the cameraman had been taking pictures, so I had been active sending dispatches home to *The Times*. They went via a cable station in Kathmandu, the capital of Nepal. There was no road to Kathmandu from the mountain. We had no long-distance radio transmitters, and certainly no satellite telephones, so they went by the hands of Sherpa runners—perhaps the very last time news dispatches were transmitted by runner.

It was 180 miles from the mountain to the capital, and the faster my men ran it, the more I paid them. The journey was very hard. The best of them did it in five days—36 miles a day in the heat of summer, including the crossing of three mountain ranges more than 9,000 feet high. They very nearly broke the bank.

I kept a steady stream of dispatches going, and I was not at all surprised to find that they were often intercepted by rival papers and news organizations. I did not much care, because they generally dealt more in description or surmise than in hard fact, and were couched anyway in a fancy prose that no tabloid would touch; but I did worry about the security of the final, all-important message, the one that would report (or so we hoped) that the mountain had actually been climbed. This I would most decidedly prefer to get home without interference.

I COULD NOT let the Indians know what my message contained—it was a secret, and they were only human—so I presented it to them in a code that did not seem to be a code.

Fortunately, I had discovered that some 30 miles from our base camp, at the foot of the mountain, the Indian Army, keeping a watch on traffic out of Tibet, had established a radio post in touch with Kathmandu. I arranged with its soldiers that they would, if the need arose, send for me a brief message reporting some important stage in the adventure. I resolved to keep this resource in reserve for my final message. I could not, however, afford to let the Indians know what such a message contained—it would be a secret hard to keep, and they were only human—so I planned to present it to them in a simple code that appeared not to be in code at all. A key to this deceitful cipher I had sent home to *The Times*.

The time to use it came at the end of May, and with it my own chance to contribute to the meanings of Everest, 1953. On May 30 I had climbed up to Camp 4, at 22,000 feet in the snow-ravine of the Western Cwm, a valley at the head of a glacier that spills out of the mountain in a horrible morass of iceblocks and crevasses called the Khumbu Icefall. Most of the expedition was assembled there, and we were awaiting the return of Hillary and Tenzing from their assault upon the summit. Nobody knew whether they had made it or not.

As we waited chatting in the snowy sunshine outside the tents, conversation turned to the forthcoming coronation of the young queen, to happen on June 2—three days' time; and when Hillary and Tenzing strode down the Cwm, and gave

ROYAL GEOGRAPHICAL SOCIETY (1)

Copy of a Message received from COL.HUNT, NAMCHE BAZAI on June 1,1953.

Everest has been climbed

Hillary

" Snow condition bad hence expedition abandoned advance base on 29th and awaiting improvement being all well. "

Tenzing

Forwarded to the British Embassy, Nepal, Kathmandu.

G.R.Joshi 5/6/53

(G.R.Joshi)
Vice-Consul, Indian Embassy
Nepal.

Stepping on the summit May 29, 1953, Tenzing (left, with British, Nepalese, Indian and United Nations flags) told the mountain, "I am grateful." A euphoric Hillary (below) said they'd "knocked the bastard off." Morris' coded message (top) to London via Indian officials in Nepal broke the story.

BURRA SAHIB

Where will "Sir Ed" celebrate the ascent's big anniversary? Not at the queen's London gala. Hint: For decades he has aided the Sherpas.

THEY CALL HIM Burra Sahib—*big in stature, big in heart*—and they have it just right. Yes, he has had lucrative endorsement gigs with Sears, Rolex and now Toyota (and has led expeditions to the South Pole and the source of the Ganges). But 6-foot-2 Edmund Hillary has mostly devoted himself to the Sherpas, a Tibetan word for the roughly 120,000 indigenous people of mountainous eastern Nepal and Sikkim, India, since he and Tenzing Norgay, the most famous Sherpa of all, summited Mount Everest 50 years ago. "I've reveled in great adventures," Sir Edmund, 83, says from his home in Auckland, New Zealand, "but the projects with my friends in the Himalayas have been the most worthwhile, the ones I'll always remember."

Hillary and the Himalayan Trust, which he founded in 1961, have helped the Sherpas build 26 schools, two hospitals, a dozen clinics, as well as water systems and bridges. He also helped Nepal establish Sagarmatha National Park to protect the very wilderness that his ascent has turned into the ultimate trekking and climbing destination, attracting 30,000 people a year.

His love of the area is tinged with sadness. In 1975, Hillary's wife and youngest daughter were killed in a plane crash while flying to one of the hospitals. "The only way I could really have any ease of mind," he now recalls, "was to go ahead with the projects that I'd been doing with them." (A grown son and daughter survive; he remarried in 1989.)

History's most acclaimed living mountaineer grew up in rural New Zealand too "weedy," he says, for sports. But heavy labor in the family beekeeping business after high school bulked him up for his new passion—climbing. Impressive ascents in New Zealand and the Himalayas earned him a spot on the 1953 Everest expedition. Hillary was knighted in 1953, and he graces New Zealand's $5 note and the stamps of several nations. Yet he works hard to debunk his heroic image. "I'm just an average bloke," he says, albeit with "a lot of determination."

Sherpas have given Hillary (in 1990) thousands of *katas*, or blessing scarves.

It's of a piece with Hillary's modesty that he would rather talk about his partner Tenzing, a former yak herder who died 17 years ago. "At first he could not read or write, but he dictated several books and became a world ambassador for his people." What Hillary admires about the Sherpas, he adds, is their "hardiness, cheerfulness and freedom from our civilized curse of self-pity."

To hear him tell it, climbers are ruining Everest. Since 1953, 10,000 have attempted ascents: nearly 2,000 have succeeded and nearly 200 have died. Hillary concedes that Nepal, a very poor country, benefits from the permit fees—$70,000 per expedition—that climbers pay the government. Still, he has lobbied officials to limit the traffic. "There are far too many expeditions," he says. "The mountain is covered with 60 to 70 aluminum ladders, thousands of feet of fixed rope and footprints virtually all the way up."

Hillary plans to celebrate the golden anniversary of the first ascent in Kathmandu, he says, with "the most warmhearted people I know."

—*BRUCE HATHAWAY*

For more on the Himalayan Trust and for recommended books, see www.smithsonianmag.com.

ANNE B. KEISER

us the thrilling news of their success, I realized that my own moment of allegory had arrived. If I could rush down the mountain that same afternoon, and get a message to the Indian radio station, good God, with any luck my news might get to London in time to coincide with that grand moment of national hope, the coronation—the image of the dying empire, as it were, merging romantically into the image of a New Elizabethan Age!

And so it happened. I did rush down the mountain to base camp, at 18,000 feet, where my Sherpa runners were waiting. I was tired already, having climbed up to the Cwm only that morning, but Mike Westmacott (the agricultural statistician) volunteered to come with me, and down we went into the gathering dusk—through that ghastly icefall, with me slithering about all over the place, losing my ice ax, slipping out of my crampons, repeatedly falling over and banging my big toe so hard on an immovable ice block that from that day to this its toenail has come off every five years.

It was perfectly dark when we reached our tents, but before we collapsed into our sleeping bags I banged out a brief message on my typewriter for a Sherpa to take down to the Indian radio station first thing next morning. It was in my skulldug code, and this is what it said: SNOW CONDITION BAD . . . ABANDONED ADVANCE BASE . . . AWAITING IMPROVEMENT. It meant, as the Indian radiomen would not know, nor anyone else who might intercept the message on its tortuous way back to London, that Everest had been climbed on May 29 by Hillary and Tenzing. I read it over a dozen times, to save myself from humiliation, and decided in view of the circumstances to add a final two words that were not in code: ALLWELL, I wrote, and went to bed.

There was nothing more for me to do, except to rush back to Kathmandu myself before any rival learned of the expedition's success and scooped me with my own story.

It went off at the crack of dawn, and when my runner was disappearing down the glacier with it I packed up my things, assembled my little team of Sherpas and left the mountain myself. I had no idea if the Indians had got my message, had accepted it at face value and sent it off to Kathmandu. There was nothing I could do, except to hasten back to Kathmandu myself before any rivals learned of the expedition's success and beat me with my own story.

But two nights later I slept beside a river somewhere in the foothills, and in the morning I switched on my radio receiver to hear the news from the BBC in London. It was the very day of the coronation, but the bulletin began with the news that Everest had been climbed. The queen had been told on the eve of her crowning. The crowds waiting in the streets for her procession to pass had cheered and clapped to hear it. And the news had been sent, said that delightful man on the radio, in an exclusive dispatch to *The Times* of London.

FIFTY YEARS ON it is hard to imagine what a golden moment that was. That the young British queen, at the very start of her reign, should be presented with such a gift—a British expedition reaching the top of the world at last—seemed then almost magical, and a generous world loved it. The news ran around the globe like a testament of delight, and was welcomed as a coronation gift to all mankind. It was nothing like so momentous an achievement as that giant moon-step the Americans were presently going to take, but it was altogether simple, apolitical, untechnological, an exploit still on a human scale, and wholly good.

Oh, the world has changed since then! Coronations and empires have lost their last allure, and mankind is not often drawn together in such guileless rejoicing. I remember, during an Everest lecture tour in the United States later in 1953, desperately trying to find a taxi in New York City to take Hillary and the rest of us from the Waldorf-Astoria to some celebratory banquet or other. We were late—we were always late, being young and exuberant—but I went to the head of the taxi line on Park Avenue and explained the situation to the elderly American at the head of the queue—Edmund Hillary—frightfully late—important function—awful cheek of me—but might he possibly consider letting us go first? His face lit up, and he made a courtly half-bow. "For Hillary of Everest," he said, "it would be a pleasure and a privilege."

For me the whole adventure was a pleasure and a privilege, and it has never been tarnished in my memory. Some of the climbers went on to be famous, some died young on other mountains, some returned from the limelight to their diligent professional lives. Tenzing was the first of the expedition's stars to die, age 72 in 1986. The British government had honored him, as a foreign citizen, with the George Medal; but it probably did not mean much to him, because anyway he had long been one of the most famous men on the face of the earth. Hunt died in 1998, age 88, by which time he was a peer of the realm—Lord Hunt of Llanfair Waterdine, a Knight of the Garter and one of the worthiest of all the British kingdom's worthies. Ed Hillary lives grandly on, surviving innumerable perilous adventures to become Sir Edmund Hillary, Knight of the Garter and New Zealand's ambassador to India from 1984 to 1989, and to devote his later years to the welfare of his comrades of the Himalayas, the Sherpas.

Whenever I met those climbers again at Everest reunions, every few years, they seemed to me much as they always had been: getting older and grayer, of course, but lean and wiry still, as climbers must be, and essentially a very decent lot of gentlemen. Would they ever ask for more? And could one want more of allegory—a very decent lot of gentlemen, reaching the top of the world? ○

Even as he endured the hardships of Valley Forge,
George Washington faced another challenge:
critics who questioned his fitness to lead

BY NORMAN GELB

Winter of Discontent

GEORGE WASHINGTON'S TROOPS could easily be followed as they trudged through the wintry expanse of southeastern Pennsylvania in late December 1777. The soldiers, many of them ragged and shoeless, left bloody footprints in the snow, marking the grueling progress of this army of the American Revolution toward winter quarters at Valley Forge.

There was no shelter for the men when they reached the exposed, hilly landscape of that misnamed redoubt, actually a plateau Washington chose largely for its defensibility. (A nearby hollow had once been the site of a smithy, hence the designation.) Tents provided their only barrier against frost and wind. Their commander in chief insisted that he, too, would shelter in a tent until his troops were able to cut down trees and construct log huts for themselves.

Washington despaired for the fate of his army. "The whole of them," said his comrade-in-arms, Gen. John Sullivan, were "without watch coats, one half without blankets, and more than one third without shoes . . . many of them without jackets . . . and not a few without shirts." None had enough to eat; some had gone hungry for days. Exhausted and ill, men were deserting in great numbers, heading home to their families and farms. It was a dark moment for the Revolution and for Washington. From his makeshift headquarters, he wrote to warn Congress: "unless some great and capital change suddenly takes place . . . this army must inevitably . . . starve, dissolve or disperse."

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At that instant, says Revolutionary-era historian Edmund Morgan, Washington was indeed "giving Congress the facts of life: you can't fight a war without an army. He was operating at a big disadvantage; the state militias offered larger bounties than Congress did for serving in the Continental army."

Yet even as Washington attempted to keep his army from disintegrating, he found himself challenged on another front. Prominent figures in the independence movement—most notably, some members of Congress—had begun to question his very fitness to command. Over the course of the next several months—until mid-March—Washington would be plagued by a small but vocal contingent calling for his ouster. They engineered a very real distraction at a moment of grave crisis.

More than two years before, on June 15, 1775, Congress had unanimously chosen the tall, 43-year-old Virginia plantation owner and gentleman farmer "to command all the continental forces, raised or to be raised, for the defense of American liberty." During the French and Indian War two decades earlier, he had proved himself a courageous and levelheaded officer, serving under British command and as a colonel in the Virginia militia.

Washington had immediately justified the confidence

Some critics wanted to replace Washington (above, left, in 1778, with Gen. Horatio Gates) with the hero of the Battle of Saratoga. The carping continued at freezing Valley Forge (opposite) where, wrote an officer, there was "not one whole shirt to a brigade."

CORBIS; P. 64 NATIONAL CENTER FOR THE AMERICAN REVOLUTION

Gates' defeat of British General Burgoyne (above, in red, shaking hands with Gates) at Saratoga won him a following in Congress. One legislator told Gates: "The army will be totally lost unless you . . . collect the virtuous band who wish to fight under your banner."

placed in him by bringing order to the hodgepodge of militia contingents he led in what was becoming America's war of national liberation. From disarray and muddle, he created an American army and, in March 1776, orchestrated its first significant achievement, besieging the British and causing them to withdraw from Boston, the principal redcoat base in America at the time. "This was the moment," says historian John Ferling, author of the definitive Washington biography, *The First of Men*, "that George Washington first captured the imagination of the American people."

But after Boston, his army suffered a series of serious reverses, including defeat at Brooklyn Heights on August 27, 1776, and the loss of New York. "At this point," says Ferling, "Washington was on the run. He nearly got trapped two or three times. During this period the British, under the command of General Howe, could have defeated him."

Washington's daring strikes against the enemy at Trenton on December 26 and Princeton on January 3, 1777, in New Jersey, boosted morale, but otherwise had little lasting military importance. Then came Brandywine Creek, in Pennsylvania, on September 11, 1777, where Washington failed to stop the British from advancing on Philadelphia, the capital of the Revolution. Members of Congress, who faced execution if taken prisoner, fled the city. This fiasco was followed by the Battle of Germantown, Pennsylvania, on October 4, where the Continental army snatched defeat from the jaws of victory through blunders in the field. Washington's four-pronged attack for taking the city proved too complex for inexperienced troops to carry out. As his soldiers maneuvered in a dense fog, they accidentally fired on one another. Given this turn of events, few in Congress observed the progress of the war without growing anxiety.

In the small Pennsylvania market town of York, about 100 miles west of Philadelphia, where Congress reconvened, there was talk that the commander in chief was indecisive and overly dependent on the advice of his senior subordinates. Congressman Thomas Burke of North Carolina decried what he called the "want of abilities in our superior officers and want of order and discipline in our army." Pennsylvania's new attorney general, Jonathan Dickinson Sergeant, a former congressman, charged that Washington was responsible for "such blunders as might have disgraced a soldier of three months' standing." In a moment of despair, John Adams, although ever fearful that a tyrant might emerge to fill the gap left by the discarded British king, pleaded in his diary while en route from

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GRANGER COLLECTION, NEW YORK

Dr. Benjamin Rush, a signer of the Declaration of Independence, referred to Washington as "outgeneralled and twice beaten."

Philadelphia to York, "Oh, Heaven! grant Us one great Soul! . . . One leading Mind would extricate the best Cause, from that Ruin which seems to await it."

Suddenly, it seemed, that desperate prayer had been answered: a patriot paladin appeared on the scene. Less than nine weeks before Washington's troops retreated to Valley Forge—the main column arrived there on December 19—the Continental army had scored a decisive victory. On October 17, at Saratoga in eastern New York, American forces, under the command of Gen. Horatio Gates, inflicted the first major defeat of the war on the redcoats, their German mercenary auxiliaries and Indian allies. For Gates, the 49-year-old English-born son of a duke's housekeeper, it was a moment of both tactical and symbolic triumph. The dashing John Burgoyne, campaigning down from Canada to split the states and crush the Revolution, was ignominiously forced to surrender himself and his army to the gruff, battle-hardened American, himself a former British officer. "One cannot underestimate the importance of Saratoga," says Ferling. "It is this victory that induces France to come into the war."

Gates' success greatly lifted American spirits. But his victory also drew attention to the fact that Washington, his superior officer, could claim no equivalent battle honors. Within Congress, criticism of Washington's performance escalated. Perhaps, some legislators suggested, the victor at Saratoga would make a better commander in chief than the general who had not prevented the British from taking Philadelphia.

Massachusetts Congressman James Lovell was scarcely alone in his view, as he wrote Gates, "The army will be totally lost unless you . . . collect the virtuous band who wish to fight under your banner." Dr. Benjamin Rush, a signer of the Declaration of Independence, contrasted Gates, "exulting in the success of schemes planned with wisdom and executed with vigor and bravery," with Washington, "outgeneralled and twice beaten."

Most of the delegates at York, however, along with the majority of the Continental army's officers and its ordinary soldiers, continued to esteem their commander in chief. They were well aware that it was Washington who had kept the army from dissolving, despite the paucity of resources provided by either the strapped and deeply shaken Congress or the newly independent states. When it was suggested to hulking Gen. Daniel Morgan, whose corps of riflemen had played a decisive role at Saratoga, that a handful of senior officers intended to resign unless Washington was removed, he unhesitatingly responded, "Under no other man than Washington as Commander-in-Chief would I ever serve."

Washington knew well that he was blamed, in certain quarters, for the poor performance of his army. But he was faced with far more pressing matters. He had troops to feed, clothe, prepare for battle—and, most important, inspire: he understood that he must rally his remaining troops—about 11,000 all told at Valley Forge—and dissuade them from deserting. The commander of the Continental army was, according to Philander D. Chase, editor of *The Papers of George Washington* at the University of Virginia, "astute enough to take a longer view of things. He understood that criticism, fair or unfair, real or apprehended, was part of the price that he had to pay to remain an effective leader and to achieve the aims of the Revolution."

In addition, Washington was engaged in planning offensive campaigns against a powerful, well-supplied foe. "The British were indeed formidable," says Ferling. "They had defeated the French in the French and Indian War; they also had the best navy in the world."

To add to Washington's concerns, for months he had contended with an assortment of European military officers, most of them French, who had converged on America to volunteer their services. They were recruited in Paris by Silas Deane, America's first official diplomat.

American envoy Silas Deane (far right, in Paris with Lafayette, far left, and de Kalb) recruited Europeans to the cause.

BETTMANN / CORBIS

Some of the officers Deane commissioned may have shared the principles that had sparked the American Revolution. But most had signed on to further their own military careers, hoping to leapfrog into higher ranks back in Europe. Washington welcomed some of those volunteers, who would prove of great value to the American cause. Notable among them were the Marquis de Lafayette, the 19-year-old French nobleman who became one of Washington's most trusted aides; Friedrich von Steuben, the German soldier who would transform Washington's ragged army into a disciplined fighting force at Valley Forge; and Tadeusz Kosciuszko, the Polish military engineer who contributed greatly to the American victory at Saratoga.

But some foreign officers who laid claim to senior command in the Continental army were a nuisance or worse—none more so than Col. Thomas Conway. He would figure prominently among Washington's detractors, whom history

Conway informed General Gates that "the more I see of Washington's army the less I think it fit for general action."

would come to designate the Conway Cabal. A French officer of Irish origin, the 42-year-old Conway, high browed, thin lipped and supercilious, made it plain that he had come to America "to increase my fortune and that of my family." He was a seasoned soldier who joined the French Army at the age of 14. Gen. John Sullivan, under whom he served in the ill-fated Battle of Germantown, believed "his knowledge of military matters in general far exceeds any officer we have."

Congress quickly awarded Conway the rank of brigadier general; his military background and charisma earned him many an admirer in York. When he threatened to return to France unless promoted to major general, more than a few congressmen, convinced that Washington needed experienced commanders, took up Conway's cause.

At first, Washington, too, had been impressed by Conway's credentials. Over time, however, he had come to believe that the French officer's "importance in this Army, exists more in his imagination than in reality." What troubled him most was Congress's readiness to promote Conway over the heads of Washington's own loyal brigadiers. Many of his officers, he warned, would refuse to serve under Conway and would simply go home. "I have been a slave to the service," Washington informed Virginia Congressman Richard Henry Lee on October 17, 1777. "But it will be impossible for me to be of any further service if such insuperable obstacles are thrown in my way."

While some in Congress would have welcomed Washington's resignation in favor of Gates, the prospect of sowing confusion in the ranks, or even of causing an already demoralized army to disband, was alarming. The Continental army embodied the Revolution.

At this juncture, during the fall of 1777, Washington prevailed and Congress failed to act on Conway's promotion. But Congress also, at this moment, reorganized its Board of War. That Congressional committee, charged with overseeing the struggle for independence, was in fact composed of members who possessed little understanding of military matters. Until then, the board had intervened only minimally when it came to the army. Now the committee would include senior officers; Washington, the commander in chief, was not consulted about whom they would be.

It was rumored that Conway might be among them. From the moment of his arrival in America in the spring of 1777, Conway had found that the organization of the Continental army clashed with his European understanding of how military units should be commanded, trained and deployed. He did not hesitate to express his deprecating views. After Congress, acting on the basis of Washington's firm intercession, had failed to support his promotion to major general, Conway stepped up his campaign to defame the commander in chief. He informed General Gates that he wished to serve under him because "the more I see of [Washington's] army the less I think it fit for general action."

Recognizing the delicacy of the situation, Congress did not name Conway to the board. But it did appoint Thomas Mifflin, the army's former quartermaster general. Once Washington's friend, Mifflin had differed sharply on strategy and was now among the general's most acerbic critics. He jealously asserted that the commander's "favourites . . . had an undue influence on him" and told Gates that Conway's criticism of Washington contained "just sentiments."

But the most significant appointment to the board turned out to be none other than the hero of Saratoga himself: it was a decision bound to create problems. Ever since his victory only a matter of weeks earlier, Gates had behaved disdainfully toward Washington, his superior officer. He even failed to formally notify the commander in chief of the triumph at Saratoga. Instead, Gates reported directly to Congress, a gesture that implied he claimed equal status with Washington. He had been slow to respond to Washington's request that some of Gates' troops, no longer essential for much-reduced northern operations, be released to the south, where they were desperately needed. Now Gates emerged as the leader of the board that would superintend the operations of Washington and his ragtag army.

French officer Thomas Conway sneered that Washington's talent as commander in chief was quite "miserable indeed."

Although Washington surely must have been offended by this high-handed treatment, he refused to engage in a squabble over the appointments. Whatever his complaints about Congress's shortcomings in providing supplies and pay for his men, he recognized the legislature's authority over the military wing of the Revolution.

Substantial changes, too, in the character of the Congress that had ringingly declared American independence more than a year earlier, on July 4, 1776, intensified the divisiveness. Many of the original founding fathers had already left the legislature or were soon to depart. Thomas Jefferson had returned to Virginia to assist its transition from a royal

GEORGE WASHINGTON IN THE AMERICAN REVOLUTION (1775-1783) BY JAMES THOMAS FLEXNER. LITTLE, BROWN AND COMPANY (BOSTON TORONTO) 1967, 1968

As Washington (with Lafayette at his side) surveyed his army's condition at Valley Forge, he confronted desperate want on every front. One congressman, New York's Gouverneur Morris, arrived to find "an army of skeletons . . . naked, starved, sick, discouraged."

colony to an independent state. Benjamin Franklin was in Paris seeking French assistance for America in the war. John Adams was preparing to join him there. Twenty-one-year-old Lt. Col. Alexander Hamilton, Washington's aide-de-camp, angrily demanded, "The great men who composed our first council; are they dead, have they deserted the cause, or what has become of them?"

Among the new delegates, few were as gifted, or would prove as memorable, as their predecessors. Much time was wasted in futile bickering. Henry Laurens of South Carolina, president of Congress during much of its York exile, grumbled, "Some sensible things have been said [here], and as much nonsense as ever I heard in so short a space." Charles Carroll of Maryland complained, "We murder time, and chat it away in idle impertinent talk."

Meanwhile, detractors in Congress were becoming increasingly critical of Washington. After visiting York, Lafayette returned to Valley Forge and declared himself outraged by "stupid men who without knowing a single word about war, undertake to judge you."

The move to replace the commander in chief with Gates—or even, it was muttered, with Conway—came to a head early in 1778 after the Continental army had arrived at the glacial hell of Valley Forge. One of every four soldiers who wintered in that place would die there. Even hardened veterans, among them Albigence Waldo of Connecticut, an army surgeon who had served since 1775, were appalled by what they saw: "There comes a soldier," Waldo wrote, "his bare feet are seen thro' his worn-out shoes, his legs nearly naked from the tattered remains of an only pair of stockings, his Breeches not sufficient to cover his nakedness. . . . He crys . . . I am Sick, my feet lame, my legs are sore, my body covered with this tormenting Itch."

Reluctantly, Washington sent troops to seize food from nearby farmers. Already weighed down with dire anxieties, he suffered another blow. On December 13, he learned Congress had reversed itself and decided to appoint Conway to the Board of War, as inspector general of the army. What was more, Congress elevated Conway to the rank of major general—the promotion previously denied because of Washington's objections.

Conway wasted no time in presenting himself at army headquarters, where, predictably, he was received with cold formality. Washington informed Conway that the newly conferred rank—a promotion the commander in chief dryly referred to as "extraordinary"—would offend many senior officers; he then asked to see specific instructions Conway had received from the Board of War. When Conway failed to pro-

GRANGER COLLECTION

"My Enemies take an ungenerous advantage of me," Washington wrote. "I cannot combat their insinuations."

duce such a communiqué, Washington had him shown out.

Upon his departure from Valley Forge, Conway sent Washington a letter barbed with sarcasm and self-justification, complaining their meeting had been a reception "as I never met with before with any general during the course of thirty years in a very respectable [French] Army."

His patience exhausted, Washington decided to confront the Conway issue. He passed the new inspector general's comments on to Congress, along with a bitter rebuttal of each accusation. Washington denied that he had received Conway with anything less than "proper respect to his official character" as an appointee of Congress. Nevertheless, he concluded, "My feelings will not permit me to make professions of friendship to a man I deem my enemy."

All the while, despite reports from friends that members of Congress were maneuvering to install Gates in his place, Washington had not sought to clash with the victor of Saratoga. He refused to believe that the new president of the Board of War was conspiring against him. "Being honest himself," Joseph Reed, Washington's former military secretary wrote, "he will not readily suspect the virtue of others." However, recognition of the challenge to his position became unavoidable.

Washington's trusted friend Dr. James Craik, a senior army medical officer, wrote to inform him that although "they dare not appear openly as your enemies . . . the new Board of War is composed of such leading men as will throw such obstacles and difficulties in your way as to force you to resign." Without consulting Washington, Gates' board secured Congressional approval of a campaign to pursue the English into Canada (the plans were later aborted). Patrick Henry, the governor of Virginia, forwarded to Washington a disturbing anonymous letter warning that "unless a Moses or a Joshua are raised up in our behalf, we must perish before we reach the promised land."

Increasingly exasperated by such taunts, Washington told a friend he would be happy to resign his command. "There is not an Officer in the Service of the United States," he declared, "that would return to the sweets of domestic life with more heart felt joy than I should." But he would do so, he added, only if the will of the people ordained it: he feared destabilizing consequences if he stepped down.

The unkindest cut, however, came from those who suggested he had concealed the appalling condition of his army in order to deflect criticism of his command. "My Enemies take an ungenerous advantage of me," Washington protested to Henry Laurens. "They know I cannot combat their insinuations, however injurious, without disclosing secrets it is of the utmost moment to conceal." Had they known its state, the redcoats, a mere 18 miles away in Philadelphia, might well have launched an attack.

While Washington hoped that the British commander, Lord William Howe, remained ignorant of the extent of the patriot army's vulnerability as it bivouacked on frozen ground, members of Congress began arriving at Valley Forge to survey conditions for themselves. A shocked John Harvie of Virginia told Washington, "My dear General, if you had given some explanation, all these rumors [denigrating Washington] would have been silenced a long time ago."

Within Congress, a growing recognition of Washington's extraordinary leadership at Valley Forge—not only was he preventing the Continental army from dissolving, he was somehow inspiring his men under the cruelest of conditions—made a profound impression. Joseph Jones, a congressman from Virginia and a long-standing friend to Washington, wrote to offer his support: "The same equal and disinterested conduct, the same labor and attention, which you have manifested in the public service from the first of the contest, will shield and protect you from the shafts of envy and malevolence."

Still, Washington decided the time had come to take up the festering matter of a letter that Conway had written to Gates that autumn, which referred to a "weak general" who might prove the ruin of America.

He had learned of the letter when one of Gates' own aides had disclosed its contents to an officer loyal to Washington. When Gates discovered that the letter had been leaked to Washington, he wrote to him, demanding the identity of the "wretch" who had "stealingly copied" his private correspondence. Bent on dramatizing his challenge to the commander in chief's integrity, Gates sent a copy of this letter to Congress.

It would prove an enormous blunder. Washington was, quite rightly, able to take the high ground when he replied to the slander. Why, he inquired of Congress, would anyone want to add needlessly to the burdens on the beleaguered legislature, pestering it with details of a personal disagreement? He pointed out that he had learned of the malicious Conway letter to Gates through an indiscretion by one of Gates' own aides. Washington added that he had not previously gone public with the matter because he was "desirous . . . of concealing every matter that could give the smallest interruption to the tranquillity of this army." In the end, the episode caused the hero of Saratoga, and Conway along with him, to appear small-minded and vindictive.

But what conclusively undermined Washington's critics was the recognition that, whatever his shortcomings, Washington remained the individual who most represented the cause of liberty in the minds of the American people and its army. Mercy Otis Warren reported to her husband, Continental Navy Board member James Warren, that "The toast among the soldiers" is "Washington or no Army." Thomas Paine, the conscience and primary propagandist of the Revolution, expressed the fervent hope that he could "shame [Washington's critics]" or at least "convince them of their error."

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As the spring of 1778 arrived, Washington's army coalesced into a coherent fighting force—and he outflanked his critics. By March, Gen. Nathanael Greene would write from Valley Forge: "The faction raised against General Washington has sunk into contempt."

Congressman Jones accurately foretold that whatever the conspirators had intended, "it will redound to their own disgrace." Men who had spoken belittlingly of the commander in chief would later deny they had ever held him in anything but the highest regard. Gates soon tried to effect a reconciliation with Washington, but his attempt was rebuffed. Congress later removed him from the Board of War and assigned him to a succession of field commands. His reputation as a military hero would soon come to grief in South Carolina where, at the Battle of Camden on August 16, 1780, his troops were routed by the British. During a hasty retreat, Gates' undisguised anxiety for his own personal safety made him an object of ridicule among his men. "The general's frantic dash from the scene," says historian John Ferling, "proved his ruination."

Mifflin also suffered a measure of disgrace. Charged with having contributed to the troops' hardships at Valley Forge through mismanagement of funds as quartermaster general, he was forced to resign from the Board of War. He denied conspiring against Washington, insisting he had always "dearly loved and greatly admired" him.

As for Conway, who was scarcely the most significant figure in the Conway Cabal—despite the name by which it became known—Congress acted with crushing decisiveness. Still denied a senior command in the army, he offered his resignation April 1778 and was surprised when it was accepted. Before returning to France, he wrote Washington "You are in my eyes the great and the good man. May you long enjoy the love, veneration and esteem of these States, whose liberties you have asserted by your virtues." In that, at least, his wish would be realized.

Historians disagree over the significance of the attacks on Washington. In his monumental biography of Washington, Douglas S. Freeman stated that "the imperative reason for defeating [the cabal] was to keep the Army and the country united in the hard battle for freedom." But Ferling tends to minimize its importance. "I don't really think the cabal existed as an organized conspiracy," he says. "It existed more in Washington's mind than in reality." Certainly, Washington was convinced that a "malignant faction" had conspired to remove him. So, too, was Patrick Henry, who, along with others, feared for the patriot cause if such efforts had succeeded.

Whatever the strength of those who considered Washington a liability, it is impossible to calculate the consequences for the Continental army, the American Revolution and the embryonic United States of America had their sentiments found greater resonance in Congress—and forced or provoked the man who would later be called the Father of the Country to resign his command.

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RUSSIA'S TREASURE-HOUSE

Searching for the past on the eve of St. Petersburg's 300th anniversary, a former foreign correspondent finds the future

BY BOB CULLEN

PHOTOGRAPHS BY SCOTT S. WARREN

NEVSKY PROSPEKT, St. Petersburg's main thoroughfare, radiates out from a landmark of neoclassical architecture that once housed the headquarters of the Russian Navy. It was here at the Admiralty, where the swift, gray waters of the Neva River rush toward the Baltic Sea, that Peter the Great fulfilled the primary purpose of the city he founded in 1703: building the fleet that made Russia a fearsome maritime power. He crowned his shipyard with a soaring spire, like the needle of a compass.

Prerevolutionary landmarks (including the 1883 Church on Spilled Blood, right) enhance the lively city center (above).

PHOTOS CHARLES O'REAR

Central St. Petersburg, with its scores of palaces (including the Belozersky, top), has witnessed many crises in Russia's turbulent history. On July 4, 1917, Bolshevik forces (above), soon to seize power, fled government troops.

As a foreign correspondent based in Moscow from 1982 to 1985, I traveled often to St. Petersburg. (It was called Leningrad from 1924 until 1991.) Each time I have returned over the past 20 years, I have gone first to the Admiralty's spire, walking a mile or two along Nevsky Prospekt to get my bearings. I traced that route again recently as the city prepared for its 300th anniversary celebration this month.

Along the boulevards of many cities, the new is immediately obvious: glass-and-steel skyscrapers impose themselves on the horizon. But on Nevsky Prospekt the low profile has remained much the same for centuries. The tallest buildings rise only five and six stories, mainly because the marshy ground beneath the city will not support high-rises, but also because the State Inspectorate for the Preservation of Monuments prohibits them.

About a half mile down the 2.8-mile avenue, Kazan Cathedral, completed in 1811, still boasts 364 feet of curving neoclassical colonnade; ornate 19th-century bridges arch over canals flowing under the thoroughfare. Gostinny Dvor (Merchants' Lodging), the yard where caravan traders hawked their wares in the 18th century, remains the city's shopping hub. Of course some things have changed since my trench coat days. During the Communist era, the Kazan Cathedral housed a museum of atheism, and shops in Gostinny Dvor scorned Western goods as icons of decadence. Today the Kazan Cathedral once again is the site of Orthodox services, and the stores stock American jeans and French perfumes.

Elsewhere during my visit, much of the city was shrouded in scaffolding as workers painted and plastered, preparing for the concerts, parades, regattas and outdoor theater that will mark commencement of the city's tercentennial. (In various American cities, too, including Washington, D.C., Baltimore, Maryland, and New York City, international consortiums have mounted exhibitions that celebrate St. Petersburg's anniversary.) Laborers were even replacing worn cobblestones in Palace Square, where the Bolsheviks stormed to power in October 1917.

Today's St. Petersburg is neither the city those revolutionaries seized nor the one they left in decay in 1990. On lower Nevskiy Prospekt, a coffeehouse outlet, the Ideal Cup, aspires to become Russia's equivalent of Starbucks. New restaurants, too, have blossomed: at Propaganda, colorful posters urging the proletariat to work harder lampoon Soviet-era exhortations. Nearby, a vegetarian café, the Green Cross, seems impossibly exotic in a country where, not so very long ago, a major indicator of prosperity was the right to buy meat without a ration coupon.

THE CITY REMAINS a monument to Peter the Great. On May 27, 1703, soldiers of the czar spaded up the first clod of soil on an island in the Neva, a place Peter would ordain the capital of all Russia, named after his patron saint. The site was a bog—frozen nearly half the year—when he wrested it from Sweden. He decreed that thousands of peasants be pressed into forced labor; they built St. Petersburg by hand, driving 16-foot-long oaken piles into marshes, dragging stones, digging canals. Disease was rampant. Thousands of workers died—estimates range up to 100,000. It was, they said, "a city built on bones."

Peter envisioned a great urban showcase, a Russian window on the West. By 1715 or so, European architects and painters, dancers, musicians and craftsmen had converged here to create an urban center neither wholly Western nor traditionally

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BOB CULLEN covered the Soviet Union for Newsweek *during the 1980s. Photographer SCOTT S. WARREN, who has traveled extensively in Russia, is based in Durango, Colorado.*

BOTTOM: CORBIS; P. 77 ARCHIVO ICONOGRAFICO, S.A./CORBIS; GIANNI DAGLI ORTI/CORBIS

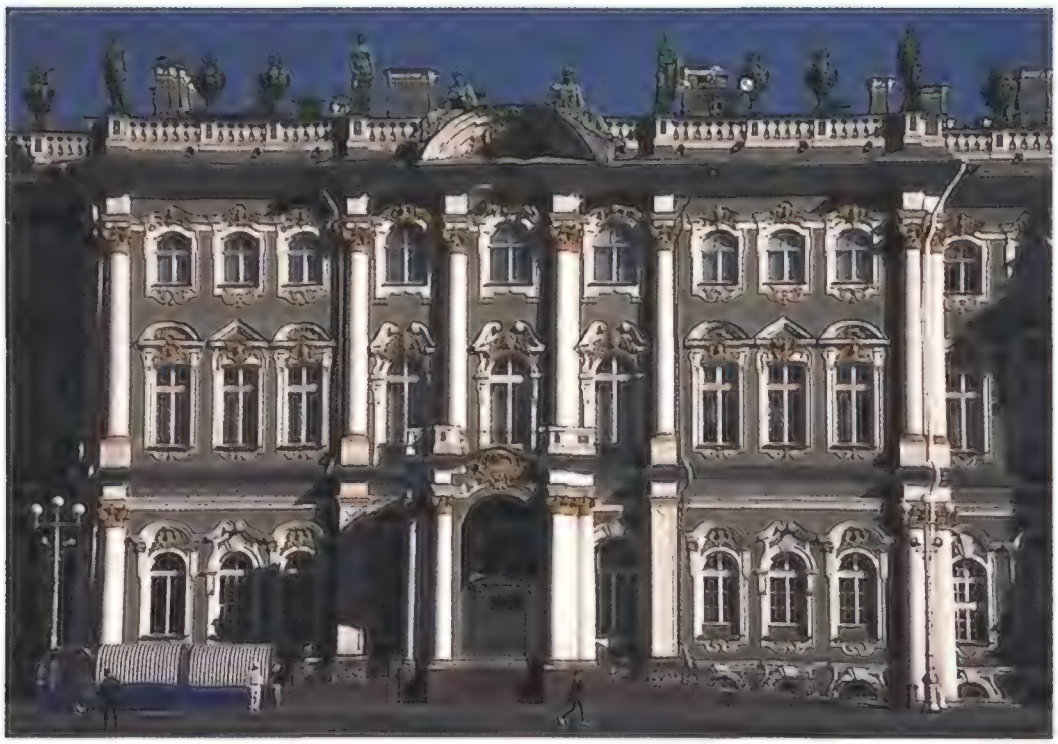
"During the freezing nights, he stood guard on the roof [of the Hermitage], ready to extinguish fires caused by the bombing."

Russian. They left monuments: palace after palace, including the grandest of them all, the 18th-century Baroque masterpiece known as the Winter Palace, destined to house the Hermitage Museum; churches that range from massive domed landmarks to fanciful confections festooned in candy-cane stripes; temples of culture, like the pistachio-green Mariinsky Theater, home of the Kirov Ballet. In those splendid buildings, St. Petersburg's artists created literature and music that endured long after Peter's dynasty fell to revolution in 1917: the poetry of Pushkin; the novels of Dostoyevsky and Gogol; the music of Mussorgsky, Rimsky-Korsakov and Tchaikovsky.

AT THE HERMITAGE, director Mikhail Piotrovsky, 59, a fifth-generation St. Petersburger, presides over one of the world's great repositories of art. His late father, Boris, was also director there, from 1964 to 1990. During World War II, as a young man, Boris helped protect the museum from Nazi bombardment. The German Army laid siege to Leningrad from September 1941 until January 1944. Hundreds of thousands of inhabitants starved to death. Yet the city did not surrender. "My father," says Piotrovsky, "served in those years as the Hermitage's deputy fire director. During the freezing nights, he stood guard on the building's roof, ready to extinguish fires caused by the bombing." (Miraculously, the museum survived, despite hits from 32 artillery shells and two bombs.)

Today, Piotrovsky confronts a less desperate, but nevertheless urgent, imperative: fundraising. Under his leadership, the museum brings in roughly half its annual budget from private sources (the other half comes from the state). Urbane and gray-haired, he works at a desk beneath a portrait of Catherine the Great, who, between 1762 and 1796, developed the museum's collection. (She stored her purchases in a more intimate auxiliary palace next door, which she called her hermitage, or retreat. The

Peter the Great (above) envisioned an urban "paradise" to rival Venice and Amsterdam; within a century, his dream would be realized.



The Hermitage Museum's holdings reflect Catherine the Great's insatiable appetite for collecting. She once conceded that it was not "love of art but voracity" that lay behind her acquisitions: "I am a glutton," she confessed.

name now embraces the entire complex.)

When the Soviet Union collapsed, Piotrovsky says, much of the city's economy, based primarily on defense factories, collapsed as well. Scheduled state subsidies failed to arrive. The Hermitage struggled. "The fact that the city survived and is now in a position of a little more stability is, in large part, thanks to its cultural institutions." Once a city of power, St. Petersburg has now become a city of art.

In a cramped basement not far from Arts Square—a complex that includes the St. Petersburg Philharmonia and the Russian Museum—St. Petersburg's transition to capitalism can be seen in an unlikely venue. From 1912 to 1915, the cellar housed the Stray Dog Café, which played a role in Russian literary life not unlike that of the Algonquin Round Table in American letters.

Night after night, the legendary poet Anna Akhmatova sat in a corner there surrounded by admirers, smoking cigarettes and drinking coffee as black as the slinky dresses she wore to recite her verse.

Through the harrowing years of World War I, Akhmatova came to personify St. Petersburg's endurance. One by one, her loved ones, victims of war or of the Russian Revolution, were killed or sent to the Siberian gulag. Through it all she continued to write. Sometimes, rather than risk setting a poem on paper, she committed it to memory, reciting fragments to a few trusted friends, who memorized their stanzas, waiting for the day when it would be safe to reassemble and publish the verse.

Among the poems Akhmatova, who died in 1966, left behind is one about the Stray Dog Café:

We're all boozers and strumpets here,
How gloomy our company.
On the wall the birds and flowers
Are longing to see the sky . . .

Oh what pain my heart is lancing.
Will it soon be my death hour's knell?
The one over there who's dancing
Will certainly go to hell.

By the time of the Russian Revolution, the café had disappeared except in the memory of Leningrad intellectuals. When glasnost came to Russia in 1986, Vladimir Sklyarsky, a theater director, descended into the old Stray Dog basement. "It was full of water and rats," recalls his wife, Evgenia Aristova. "I thought it was Utopian to think about restoring it."

The undaunted Sklyarsky, who was ill the day I visited, managed to enlist colleagues, along with arts students and preservationists, to his cause. He stripped the café's walls to bare brick, and in a whitewashed passageway encouraged St. Petersburg artists to draw caricatures, scrawl autographs, write a line of verse. It took 15 years, but in 2001 the Stray Dog reopened.

Most nights now there's a poetry reading, a one-man play or a musical performance. The night I was there, three actors staged a stark, biographical drama surveying the life of the poet Osip Mandelstam, a contemporary of Akhmatova's who perished in Stalin's camps. The little basement room was full of people, young and old, holding hands, sipping drinks, smoking furiously and applauding the performers.

But by 9:30 p.m., the café was largely empty. "Poetry lovers can't afford to eat and drink enough," Evgenia Aristova sighed. Sometimes, she added, they bring their own vodka in pocket flasks, rather than buy drinks at the bar.

FOUNDED IN 1738, the Vaganova Ballet Academy has occupied the same creamy white-and-gold complex of neoclassical buildings since 1836. In 1957, the academy, whose

P. 79 VLADIMIR FRANK / VAGANOVA BALLET ACADEMY

"See the building on the corner? Dostoyevsky lived there when he wrote *Crime and Punishment*."

graduates include such dance giants as George Balanchine, Nijinsky, Mikhail Baryshnikov, Rudolf Nureyev and Anna Pavlova, was renamed in honor of Agrippina Vaganova, the legendary teacher who presided there from 1921 to 1951. In her memoirs, Pavlova described the school as a "convent whence frivolity is banned and merciless discipline reigns."

"We have 300 pupils in the performing department," Yulia Telepina, a 26-year-old staffer, tells me. "They enter when they are 9 or 10." Medical examinations determine whether a child can endure the school's regimen: six hours of dance classes and practice each day, six days a week, for eight years. Telepina estimates that for every successful applicant, nine are turned away. About 60 students are admitted each year. Eight years later, fewer than half graduate.

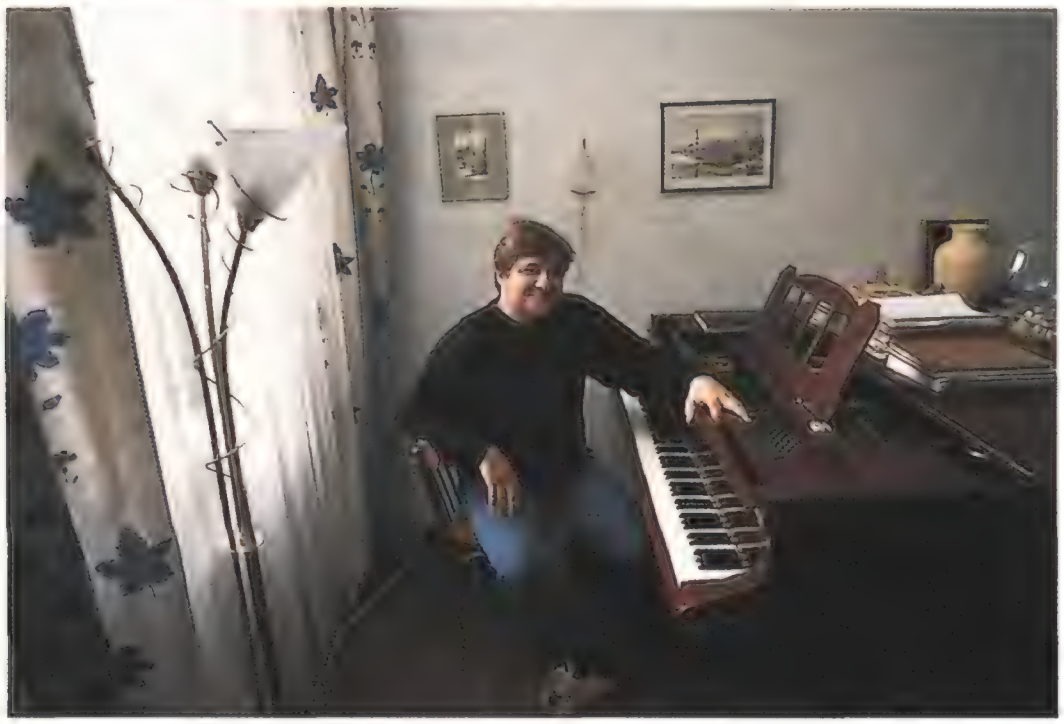
In a large rehearsal hall, 11 members of the senior girls' ballet class begin their warm-up exercises at a bar extending along three walls. The teacher, Lyudmila Safronova, who herself began studies at the academy in 1938, enters dressed in a severe black ensemble. "Don't move the arms so much," she commands Alina Somova, a dark-haired 17-year-old in white tights, red leotard and running shorts. "It's enough to move the hands."

After class, Somova—like many artists I spoke to in St. Petersburg—acknowledges that she can't make a living here. Upon graduation, she says, "I want to try my skills abroad."

ONE AFTERNOON, outside the Rimsky-Korsakov music conservatory, pianist Petr Laul picked me up in a battered white Mercedes that, at 21, was only three years younger than he. He skirted a narrow canal before turning onto a side street. "See the building on the corner?" he said, pointing to dingy brick apartments. "Dostoyevsky lived there when he wrote *Crime and Punishment*."

We entered his apartment building via a dark, dank passage that seemed as if it had not

Many Russian children (like those on a St. Petersburg outing, above) aspire to attend the rigorous Vaganova academy (below).



Vladimir Sklyarsky (top) restored the Stray Dog, a prerevolutionary avant-garde café, where today artists attend performances but cannot afford dinner. Pianist Petr Laul (at home in St. Petersburg) performs abroad to survive.

been painted since Dostoyevsky's time—a typical condition of most Russian apartment buildings. Laul, dressed in jeans and a beret, indicated a doorway opposite a courtyard: "Some people say that the garret Dostoyevsky had in mind for the character of Raskolnikov was at the top of the stairs beyond that door."

Laul's apartment is a third-floor walk-up. As soon as we stepped inside, he phoned the police and gave them his entry code. Because he owns three pianos, a computer and a large collection of CDs and phonograph records, he subscribes to an enhanced police security service.

In his kitchen, he made coffee and talked about his grandfather, Alexsandr Dolzhansky, who taught polyphony at the conservatory. Shortly after the end of World War II, Stalin's postwar cultural purges began. In 1948, the party declared that the music of St. Petersburg composer Dmitry Shostakovich contained "formalist perversions." Meetings were called to denounce him. Laul's grandfather was expected to join in the ritual condemnation. "Instead, he stood up [at a faculty meeting] and said he considered Shostakovich a genius. He could have gone to jail. Thank God they only fired him from the conservatory." Ten desperate years would pass before Dolzhansky was again permitted to teach.

Laul, who trained at the school where his grandfather and father taught for many years, won the prestigious Scriabin Competition in Moscow in 2000. In my day, this would have placed him in the hands of the Soviet state booking agency, Goskontsert, which dictated the performance schedules of Soviet musicians. But in the new order, Laul has a Germany-based agent who books appearances for him in that country. He has also performed in the United States, France and Holland and estimates he is one of perhaps ten concert pianists in St. Petersburg who can make a living at it. To do so, however, he must perform abroad.

Will he continue to live in the city? He shot me a look. "I can't leave," he said in a voice full of exasperation. "Abroad, life is comfortable and easy and pleasant, but it's *boring*, like a sanatorium. Here it's interesting—sometimes very unpleasant—but *interesting*."

Here, he says, he senses ghosts, shades of the great St. Petersburg musicians, whenever he enters the conservatory, where Tchaikovsky's name is etched on a wall as the outstanding graduate of 1865, where Jascha Heifetz studied violin and composer Rimsky-Korsakov taught. "It's such a harmonious city," he says. "If not for St. Petersburg, you wouldn't have had Gogol, Pushkin, Mussorgsky, Tchaikovsky, Dostoyevsky."

And St. Petersburg still inspires novelists to themes of crime and punishment. Across the street from the Vaganova Academy, the Agency for Investigative Journalism is headed up by Andrei Bakonin, 39, a tall, athletic journalist with thick black hair and a brushy mustache. As it happens, in the mid-1990s both Bakonin and I wrote suspense novels set at the Hermitage. Each revolved around a forgery of one of the museum's masterpieces; he chose a Rembrandt and I a Leonardo. In both books, villains plotted to sell the real paintings to collectors and pocket the proceeds. There was, however, one important difference: while my novel—*Dispatch from a Cold Country*—beat a hasty path to the remainder tables, his *Defense Attorney,* written under the name Andrei Konstantinov, was a minor sensation and a mega-seller.

When the USSR collapsed in 1991, Bakonin, who had worked as a translator in the Soviet Army, was discharged. The next year, he landed a job at a St. Petersburg newspaper, covering the crime beat. He branched into novels and also established the Agency for Investigative Journalism.

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"One of the great treasures of St. Petersburg is its forged metal. Like a foil for a precious stone, it gives the city a museum quality."

There, he and his colleagues have produced 27 books, nonfiction and fiction both—"17 or 18 million copies," he says. "In America, I would probably be a very rich man. But not in Russia. Sell a million books and you make maybe $90,000. If you calculate for nine years, I've earned maybe $400,000. I spent most of it. I have a nice car by Russian standards, a Honda SUV, and a five-room apartment now being remodeled."

Bakonin says he sometimes finds the Russian classics heavy going. "In the West, they take two authors very seriously—Tolstoy and Dostoyevsky, right? There's even a term, 'Tolstoyevsky.' Tolstoy has absolutely no sense of humor. Of course, he's a genius. But both he and Dostoyevsky have a problem with humor."

GENNADY VIUNOV is restoring the ornate wrought-iron fence that separates the gardens of the Mikhailovsky Palace, which houses the Russian Museum, from the Church on Spilled Blood. That Russian Revival church was built on the site where anarchists assassinated Czar Alexander II in 1881. Viunov, a husky, bearded man in his mid-40s, trained as a sculptor at the city's Academy of Arts and worked in architectural restoration. Eight years ago, he and some colleagues founded a private firm specializing in forged iron. They have re-created the skills employed by St. Petersburg's blacksmiths in the days of the Russian Empire.

"One of the great treasures of St. Petersburg is its forged metal," he says, as we drive out of the city in his Soviet-era Volga sedan. "The great architects drew their own designs. If you have a palace or a park, it has a fence. Wrought iron is like a foil for a precious stone. It gives the city a museum quality."

He can thank the Bolsheviks for the profusion of wrought iron here. When Germans, advancing on the Western Front in World War I, pushed perilously close to St. Petersburg in 1918, Lenin returned the Russian capital to Moscow. So it was in Moscow after the war that hundreds of buildings were torn down to

Landmarks (like the Mariinsky Theater, below, home to the Kirov) get facelifts, keeping restoration workers (above) hopping.

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New economy survivors: novelist Andrei Bakonin (top), whose thrillers have sold millions of copies, and photographer Valery Plotnikov (above) have managed to thrive. Many St. Petersburg artists, however, are destitute.

make way for the bleak concrete hulks that housed the Soviet bureaucracy. The palaces and landmarks of St. Petersburg lay untouched. In many cases, they were also left to rust and rot, which is why there is much work for Viunov to do.

His plant is located in a series of low, grimy structures, once outposts of the Cold War. Just inside one building, Viunov points out renovated 12-foot-high segments of iron fence awaiting reinstallation in the city. No two are alike; they feature elaborate patterns of leaves and stylized sunflower blossoms. "There's a lot of symbolism in this fence," he says. "You can see the leaves drooping. It gives a sad impression. I think the architect was meditating on the death of the czar."

Thus far, 19 of the fence's 53 segments have been completed, he adds, at a cost of about $20,000 each, thanks to support from many donors, including the Fabergé Arts Foundation, a group based in St. Petersburg and Washington, D.C. that is dedicated to preserving the city's heritage.

That legacy appears all the more remarkable when contrasted with much of the landscape lying beyond the central city: bleak and soulless blocks of Soviet-era apartment buildings, where many of St. Petersburg's four million citizens live.

DMITRI TRAVIN, 41, writes a business column for a St. Petersburg newspaper and lectures on economics at the European University, a new graduate-level institution that gets the bulk of its funding from Western foundations. "St. Petersburg had a structural crisis after the Soviet collapse," Travin says. "In the first half of the '90s, there was a lot of hidden unemployment. People had jobs, but with no or very little pay.

"The economy here," he goes on, "had already begun to grow in 1996. But the big change came in 1998, when the ruble was devalued by a factor of four. Imported goods became too expensive and disappeared. By that time, a lot of local enterprises were ready to replace foreign suppliers."

Now, says Travin, the beginnings of Western class structure have begun to emerge here. "We have a small group of the very rich and a fairly big middle class, made up of skilled workers, branches of the intelligentsia, small businessmen." But there is also a large impoverished class composed of the "old poor"—laborers and retirees who have no skills to sell in the new marketplace or who subsist on inadequate pensions—and of the "new poor," who depend on a fixed state salary—everyone from bus drivers to teachers and researchers. "There are people with doctoral degrees trying to get by on $50 per month," he says.

Like the Hermitage's Piotrovsky, Travin believes the arts have helped save the city, which, he feels, has the potential to be a world cultural center. "Unfortunately, we do very little to market ourselves," he says. "Around the world, Russia has the image of an unstable country."

ON MY LAST NIGHT in St. Petersburg, I heard from an old friend, Valery Plotnikov, a photographer I knew in Moscow in the 1980s. Since then, he has moved back to St. Petersburg, his hometown. He stopped by my hotel, which, in itself, was a departure from our old habits. In the Communist era, we met on street corners, and I would escort him to my quarters under the suspicious gaze of policemen charged with discouraging contacts between Russians and foreigners.

Tonight, in the hotel café, we order shrimp and beer, catching up on old times. He has divorced and remarried and now has grandchildren. He also has a new apartment he wanted to show to me. We walked up Nevsky Prospekt in a chill rain, first turning from a side street to the building where he maintains a studio. Inside, he pulled from the shelf a recently published book of his photographs, spanning the

"Well," Valery said proudly, gesturing from his new building to the one across the street, "now *we're* a land of contrasts!"

1970s to the late '90s. Valery specializes in portraits of people in the arts—actors, writers, musicians. As I leafed through the pages, it struck me that the book could be seen as an elegy to the last generation of Russian artists to mature and work under Soviet power. Baryshnikov was there, looking very young. So were many others who had never gotten out of the country, never been permitted to flower.

We left the studio, walking through a courtyard to arrive at a new six-story apartment building with spacious terraces. "This is my new place," Valery said with obvious pride. His apartment is on the top floor. In the foyer we remove our shoes. He shows me the bathroom, with its Jacuzzi-style tub; the big kitchen; the sleeping alcove; the large main room, still barely furnished. He turned on the stereo: Ella Fitzgerald, a mutual favorite. We stepped out onto his terrace.

The rain had let up, but the night air was still misty. Valery gestured across the street to an old building, its windows gaping. It was, presumably, a candidate for either renovation or demolition. It reminded me of the building his cramped Moscow flat was in. "You remember how in the Soviet days, all the reporting from America always called it 'a land of contrasts'?" he asked me. "How they always showed there were poor people next to the normal people?" I nodded. "Well," he said proudly, gesturing from his new building to the one across the street, "now *we're* a land of contrasts!"

I smiled. The old "land of contrasts" theme had, of course, been little more than journalistic jargon, about as valid as any assertion I might make today that St. Petersburg has become a normal European city. A century of calamity and misrule cannot be overcome quickly, not even in a decade. But as we stood on the terrace of that new building, looking out over the city's roofs, it seemed possible to believe that in its fourth century this stately, resilient city might finally become a place where its gifted, courageous people could lead the lives they deserve. ○

Blacksmiths (above) are restoring the city's splendid ironwork, such as the railings surrounding the Church on Spilled Blood (below).

JAMES TURRELL'S LIGHT FANTASTIC

The innovative artist has devoted his life to transforming a crater in the Arizona desert into a monument to light

BY PAUL TRACHTMAN

PHOTOGRAPHS BY ROBERT POLIDORI

An artist who says he "sells colored air and blue sky," Turrell (above, at Roden Crater, near Flagstaff) is turning an ancient volcanic crater into a naked-eye observatory. Through the elliptical opening of its East Portal (right) visitors will see the sky in a new way.

"When you isolate light," says Turrell, "it can become quite powerful." As a visitor walks up an incline through the 870-foot-long tunnel deep inside the crater that leads to the East Portal, the shape of the opening that frames the sky gradually metamorphoses from a circle into an ellipse. It's just simple geometry, explains the artist. An ellipse seen at a certain angle will appear as a circle.

STANDING ON THE RIM of an ancient volcanic crater in northern Arizona, with the Painted Desert as a spectacular backdrop, James Turrell surveys all he has wrought. For a quarter of a century, this 60-year-old artist has been transforming the crater into an immense naked-eye observatory. It is a modern counterpart of sites such as Newgrange in Ireland and Abu Simbel in Egypt, where earlier civilizations watched celestial events with both curiosity and awe.

Not many people have yet seen the temple of light he has built here, and most of it is not visible from above, for it consists of a complex of chambers and tunnels extending deep below the surface. Two circular structures stand like stone eyes in the huge bowl of the crater. Through these eyes, Turrell explains, he is bringing the sky down into the earth, where underground visitors will experience it in a new way.

For Turrell, "bringing the sky down" is not just a poetic turn of phrase. He is intrigued by human perception, and studied perceptual psychology before turning to art. Ordinarily, he says, we take for granted that the sky is something "up there." But from inside the crater the sky will drop down—not because he's done anything to the sky, but because he has changed the context for viewing it. Some of the spaces are precisely, mathematically oriented to capture rare celestial events, while others are shaped and lit to make everyday sunsets and sunrises look extraordinary. What Turrell has wrought is, indeed, a monumental sculpture that combines ancient principles of archaeoastronomy with modern insights from the labs of perceptual psychologists. There is nothing like it on the face of the earth.

PAUL TRACHTMAN, who lives in New Mexico, wrote about artist Edgar Degas's fascination with ballet in April. Architectural photographer ROBERT POLIDORI is based in New York and Paris.

Even before descending from the crater's rim, it's hard to remember that we're only about 40 miles northeast of Flagstaff and civilization. Roden Crater, as it's called, is a mile in diameter at its base on the desert floor and rises 700 feet to its rim. It is only one of many such cone-shaped craters in the middle of a 1,800-square-mile volcanic field. Turrell first saw it from the air nearly 30 years ago while piloting his own plane, looking for a place to make art out of light. It stood in the outback of a ranch that wasn't for sale, and Turrell had no money to buy it even if it were, but these were mere details to a visionary artist arriving from the sky.

Tall, white-haired and full-bearded, Turrell today looks a bit like an Old Testament prophet. And he's probably sometimes felt like one in the decades it has taken to build this monument in the desert. After convincing the owner to sell him the ranch in 1977 and scraping up enough for a down payment, he has had to excavate and move 1.35 million cubic yards of dirt, install 660 tons of steel and pour 5,500 cubic yards of concrete, mixed on-site from volcanic cinder and rock. He's also had to turn himself into a cattle rancher, not only to help realize the project but also to hold on to grazing leases around the crater so that others could not build houses and add artificial light to the night sky. Besides all this, he's had to work with astronomers and archaeoastronomers in planning the observation of celestial events for thousands of years in the future, and he's had to move heaven and earth to raise the money from foundations to pay for it all—$10 million to date. Eventually the site will be maintained by the Dia Foundation. When asked how soon Roden Crater will be open to the public, Turrell tugs his beard and mumbles, "A few more years, just a few more years."

While working on the crater, Turrell has also been creating art out of light in museums and galleries—projecting and mixing colored light to make seemingly solid objects appear to be hung from walls or suspended in air. In a typical instal-

Turrell wants the 400,000-year-old red cinder cone of Roden Crater (above) to appear as untouched as possible. He has, however, carefully reshaped the rim and the crater to heighten the effect of "celestial vaulting"—seeing the sky as a dome rather than a flat expanse—and built the two "stone eyes" (below) so visitors can view the sky from inside the crater.

TOP JAMES TURRELL

lation called *Gard Blue* (p. 93), you enter a dark room and see a 5 1/2-foot-tall blue tetrahedron standing brightly in one corner. It looks as though it's made of plastic and lit from within. Only when you come close do you see that the "object" is actually pure light, projected across the room from a corner of the ceiling. Stepping into another installation, called *Danaë*, you see a large purple rectangular panel, glowing like illuminated Sheetrock, hanging in front of a white wall at the far end of the room—but if you try to touch it, there's nothing there, only a rectangular hole cut into the wall with hidden ultraviolet lights on the other side.

A pioneer in what is now called installation art, Turrell caused a sensation when the Whitney Museum of American Art in New York City gave him a show in 1980 and a guest at the opening tried to lean against one of his "sculptures" and fell through it, breaking her wrist. A stunning retrospective of Turrell's work is on view through the end of June at the Mattress Factory in Pittsburgh, a museum that has grown up with installation art, and which featured Turrell's work in one of its first shows 20 years ago.

Barbara Luderowski, the Mattress Factory's director, and curator Michael Olijnyk were among Turrell's early supporters. "In those days it was tough to find places that would let an artist put nails in the floor or rewire a room," says Luderowski. "When we did that first show, Turrell was an artist's artist. Since then he has had a profound effect on younger artists and will have even more of one because he's becoming more visible."

Turrell (right, in 1969, with sculptor and collaborator Robert Irwin) studied perceptual psychology before turning to art. Both received MacArthur Foundation "genius" grants in 1984.

Light has always been the subject of art, says Turrell, who recalls his Quaker grandmother telling him, "Go inside and greet the light." Paintings, he says, whether Rembrandt's somber interiors or Rothko's abstract colorfields, are a kind of journal of how an artist sees light. But his own work is not about light in this way; it simply is light. "I want to put you directly in front of light, so you see it with your own eyes, not through my eyes," he says. The results can be sublime. "Turrell's work comes as close to spiritual as anything I've ever seen," says Luderowski. "And it's an aspect of art that has not been much in evidence in our culture in our times."

What the crater and the museum installations have in common is Turrell's ability to show us something we rarely see: light as a physical presence, a material in its own right, not just something that illuminates the rest of the world. Turrell first had this idea in an art class at Pomona College, watching slides of paintings projected onto a screen. He found the light beam dancing in the darkness more fascinating than the pictures. "I realized I was more interested in the light than in the art," he says. In a sense, he has spent the rest of his life exploring that epiphany.

"I like to use light as a material," he explains, "but my medium is really perception. I want you to sense yourself sensing. To see yourself seeing. To be aware of how you are forming the reality you see." He points to the bowl of Roden Crater, which looks as natural as it is ancient. "We moved more than a million cubic yards of cinder, and it looks almost the same," he says with a smile. But it was painstakingly shaped and reshaped, as was the rim he and I are now standing on, until it created the right framework for seeing the sky as a celestial vault or dome, as in some medieval and early Renaissance paintings, rather than as a flat expanse.

On the rim of the crater, sunset is approaching. We climb down into the bowl, enter a tunnel and descend through darkness into a large white circular chamber; the walls appear to slope inward to the ceiling, a flat white disk with a circular opening at the center. This underground room is called the Crater's Eye, and we are looking up through it into the fading daylight of a desert sky. A stone bench runs around the perimeter of the room so one can lean back and stare upward. And wait.

"All the work I do has a strange sense of time," Turrell says as we sit there. "Often you have to wait for an effect to develop." The room we are in looks like a kiva, the kind of underground circular chamber used for religious ceremonies at Chaco Canyon, the 1,000-year-old Anasazi pueblo ruin in a desert to the east, and still used by the Hopi and other Pueblo Indians today. Yet Turrell has given this ancient design a space-age update. The smooth, polished sandstone and white plaster, and the pure geometry enclosing us, make me feel as if I'm inside some cosmic egg, the sort of space familiar from sci-fi movies.

As we wait, the pale blue sky outside is still a little brighter than the room, which is dimly lit by a hidden ring of neon tubes set into the wall above us. Over the next half hour, time seems to speed up as the sky runs through an almost indescribable palette of distilled blues and reds, azure melting into turquoise into violet into purple, and darkening to a midnight blue that soon turns solidly, impenetrably black. Strangely, as the colors deepen, the sky seems to drop down onto the crater. It loses its ordinary sense of being somewhere "up there," and ends up "down here," sitting like an obsidian slab on the ceiling of the room.

MALCOLM LUBLINER

Turrell has not said anything during this spectacle, but now he tells me to go back up through the tunnel into the bowl of the crater outside and look at the sky. It is the glowing twilight blue of lapis lazuli, still perfectly sky-high, nothing like the black "slab" hovering over the Crater's Eye. When I rejoin him, he's grinning like a magician ready to take his bow, but there's no magic here. It's not even an illusion, he says. The sky inside is just as real as the sky outside. It all depends on how we see it. What Turrell has done inside the room is to balance the inside lighting with the light of the sunset sky in a way that alters our perception of it. "We're not very aware of how we create reality," he says. "My work is just a gentle reminder that we're making this world, that we shape it, literally, we color it, literally. We give the sky its color; it isn't something that is just received." As I drive with him across the desert later that night, he promises to take me deeper into the crater in the morning, through an immense tunnel that is part of a naked-eye observatory that he says will serve for millennia to come.

Heading back to the crater by daylight, however, Turrell turns from artist into rancher as he spots a pair of dusty cowboys driving a small herd of cattle toward us along the rutted, red-dirt road. He brakes the pickup, waiting for his ranch foreman and a young hand to ride up. Turrell has been away for more than a month, working on a project in Japan. "This has been a hard year for getting the art done," he says to the foreman. "It's been a hard year for the cow deal, too," the cowboy replies from a sand-colored quarter horse, smiling through a sand-colored mustache as he surveys a grassland without much grass. For a few minutes, the man who contemplates celestial events thousands of years in the future talks about drought, coyotes and falling cattle prices.

An avid pilot, Turrell (atop a single-engine Nord Stampe he was rebuilding in 1976) loves restoring old airplanes. He once supported himself flying crop dusters and mail planes.

"I don't know if it's harder to make a living as an artist or a rancher," Turrell tells me as the pickup climbs the road around the crater's outer slope. His inspiration for the project, he says, is ancient archaeological sites, including the early naked-eye observatories built by the 16th-century astronomer Tycho Brahe in Denmark. "These are special places," he says, "antecedents for how we've looked at the sky before, how we've entered the sky."

Partway up to the rim Turrell parks the truck near a gaping hole in the side of the crater, the mouth of a steel-and-concrete tunnel that goes through its depths and ends up in its bowl, which is higher than the place we are standing now. We enter the tunnel and step into a round antechamber that awaits the installation of a 17-foot-tall slab of white marble. At summer solstice sunrises and certain lunar events, says Turrell, full images of the sun and moon will be projected onto the slab's white surface. Turrell conjures up a 10-foot image of the moon projected 120 feet underground. "I want this celestial object to enter your territory, to be part of your physical space," he says. "And in the tunnel, I want you to have the feeling of going up into the sky."

At first, walking uphill through the tunnel, which is nearly as long as three football fields, the sky appears as a small circle of light that grows larger as you get closer to it. Orienting it precisely to align with celestial events took years of calculations, made by retired U.S. Naval Observatory astronomer Dick Walker, with input from archaeoastronomer Ed Krupp, director of Los Angeles' Griffith Observatory, and other scientists and engineers recruited for the project.

It's easy to think of this passage toward the light, as Turrell does, in metaphorical terms. It seems like the kind of tunnel often described in near-death experiences, or the sort of hole in the earth from which the first people emerged into light in the origin myths of the Hopi and other indigenous peoples. As you near the end of the tunnel, however, you forget about myths. With every step, you see the shape of the opening changing from a circle into an ellipse. It's a bizarre sight. But it's just simple geometry, Turrell says reassuringly. An ellipse seen at a certain angle will appear as a circle. "It's one thing to know the math," he says, "but I want you to feel the shape change as a real, physical experience." It's an unforgettable feeling. Finally, at the tunnel's end we step into the dazzling white chamber of the East Portal and look up at the sky through the 10-by-29-foot ellipse that is now overhead, with a sleek bronze stairway inviting us to ascend. The white walls of the chamber, the height of the stairs (with no handrails) and the bright light of the sky are disorienting as we climb upward into the base of the crater's bowl. It's like climbing through a cigar-shaped UFO and stepping into the sky.

WHEN PEOPLE ASK TURRELL how much the crater has cost, he replies, "A couple of wives and several relationships." Twice divorced, he has six children, three of them grown and living nearby in Flagstaff, and the younger three living with their mother on the East Coast. He lives in a modest ranch house about 30 miles from the crater with his partner, Korean-born artist Kyung-Lim Lee, 45, who often puts down her own paintbrush to feed the livestock or answer the studio phone when Turrell is away. And he admits that he never

JAMES TURRELL

dreamed that Roden Crater would become a life's work.

Born in Los Angeles in 1943, Turrell grew up not far from Hollywood, the city of illusion—"Maybe that's why I'm so interested in perception," he says with a laugh. He was a math whiz before showing any artistic talent. When he did turn to art, he supported himself by flying small crop-dusting and mail planes over Southern California, and by restoring antique cars and vintage airplanes. In 1966, as a young artist in Ocean Park, California, where older painters Richard Diebenkorn and Sam Francis had studios a block away, Turrell rented the two-story Mendota Hotel, where he covered all the windows and painted the walls, floors and ceilings white. This was his studio, and his art consisted of letting small amounts and shapes of light into interior spaces, finding ways to show what he calls "the thingness of light."

At the time, other California artists, among them Robert Irwin, Larry Bell and Bruce Nauman, were also working with the effects of light on various materials. Irwin became a friend and in 1984 shared with Turrell the first MacArthur "genius" award ever given to visual artists. "Bob Irwin was using light to dematerialize objects, to make them appear less solid," Turrell says. "And I was trying to materialize light as an object." Also around that time, artists on both coasts were inventing what came to be called Land Art, with massive works such as Michael Heizer's *Double Negative*, two trenches cut into a Nevada canyon wall, Robert Smithson's *Spiral Jetty* earthwork in Utah, and Walter De Maria's 400-acre grid of lightning rods in New Mexico. And though Roden Crater is often described as Land Art, Turrell feels his antecedents are the ancient architects who built structures that brought light in from outside to create an event inside. "That's what I was doing at the Mendota Hotel," he says. "That was also done at Abu Simbel, and that's what I'm doing at Roden Crater."

Turrell adjusts the lighting inside the kiva-shaped "Skyspace" of the Crater's Eye to balance it with the light outside. The effect changes the viewer's perception of the sky above.

When Turrell is not working on the crater, he tries to keep up with an ever-increasing demand for his installations from collectors, museums and galleries. He recently worked on a permanent "Skyspace" similar to the Crater's Eye in a Quaker meetinghouse in Houston (he says he's a lapsed Quaker recently returned to the fold) and another in Seattle at the Henry Art Gallery (opening in July), and he has turned entire office towers into light installations in Europe and Japan.

In his show at Pittsburgh's Mattress Factory, his works reflect the influence of perceptual psychology. Psychologists have put subjects in sensory deprivation chambers, intense light boxes and other strange environments to probe the nature and limits of perception. Turrell's installations sometimes seem like such experiments masquerading as art, but the ingenuity of their design is obscured by their beauty and simplicity. "Whatever work it may take to get there doesn't matter," he says. "I want you to see the swan as it glides across the lake, not the fact that underneath it's paddling like hell."

The most spectacular Pittsburgh installation is a 12-foot-high sphere called *Gasworks*. It looks something like an MRI diagnostic machine, and you lie flat on your back on a gurney while a white-coated attendant slides you into the sphere. Once inside, you feel suspended in pure color, which keeps changing, as if the light itself is holding you up and you're floating through a rainbow. With nothing to focus on, it gets hard to tell if you're seeing a color or imagining it. When you close your eyes, the afterimages are so intense that your eyes still seem to be open. Suddenly bursts of flashing strobe lights generate astonishing geometric patterns. Then serenity returns as you are enveloped once more in luminous fields of pure color, pulsing slowly brighter and darker until you feel the light like a massage, pressing down and releasing you into Turrell's strange cosmos. The voice of the attendant seems otherworldly when you hear him, as though in a dream, saying, "We're going to pull you out now."

ON MY LAST DAY at the crater, Turrell asks if I'd like to see it from the air. I nod enthusiastically, and soon we are pushing a 1939 single-engine, two-seat Scout out of a hangar. It seems light as a feather, with a skin of sky-blue cloth sewn over a metal frame. "Don't put your hand through the sides," he warns as I climb in.

In the air, as he searches for stray cattle, Turrell appears totally at home. The plane sweeps over the desert landscape and flies low over the curving Little Colorado River. We soar back up over the canyon rim and bank hard, heading straight for Roden Crater. At a distance, the cone of red cinders looks its age, about 400,000 years. Only as we dip down and fly over it do I see its two circular stonework "eyes." "It's a beautiful geologic structure," says Turrell, "and I want it to look as untouched as possible when I'm done."

Then he tells me about the work crew who couldn't understand why they had to keep picking up cinders from one place, only to put them down in another as he tried to even out the crater's bowl and rim. "'Why?' they kept asking. 'We're shaping the crater,' I told them. 'Actually, we're shaping the sky.'"

FLORIAN HOLZHERR / MATTRESS FACTORY, PITTSBURGH, PA

"I *use* light," says the artist, "drawing with light, instead of paint. I think of myself as someone with a painter's eye in three dimensions." In his installation *Gard Blue*, at the Mattress Factory, the artist creates a seemingly solid tetrahedron out of pure light.

The Nature of Cuba

Tiny frogs. Vast swamps. Pristine rivers. Whether by design or default, the island boasts the Caribbean's best-kept wildlands. But for how long?

BY EUGENE LINDEN

PHOTOGRAPHS BY LYNDA RICHARDSON

ON A WINDING ROAD not far from the vibrant colonial city of Santiago de Cuba, we stop to admire a particularly stunning coastline of cliffs, coves and beaches that seems to stretch to infinity. And just inland are the towering Sierra Maestra. The lower slopes are a patchwork of grasslands and trees that give way at higher altitudes to dense forests. Clouds form, disperse and tatter around the peaks.

The road is empty, and no passing car disturbs the sounds of the surf and wind. "If I were a developer," I say to Antonio Perera, an ecologist and former director of the Cuban government agency that oversees protected lands, "this is where I would site my hotel."

"In that case," he says, "I'd be fighting you." Chances are, he'd win: Perera once helped defeat a plan to widen and straighten this very road.

During a recent 1,000-mile trip through Cuba to see its wildlands at this pivotal time in its history, I saw a lot of unspoiled territory that is largely a monument to battles that Perera and his colleagues have won: swamps bursting with wildlife, rain forests and cloud forests, grasslands and lagoons. Perera says 22 percent of Cuba's land is under some form of protection. The percentage of safeguarded environment in Cuba is among the highest of any nation, says Ken-

TOP: DOUG WECHSLER / VIREO

Cuba is the "biological superpower of the Caribbean," says one U.S. conservationist. Among the island's riches are the tiny Iberian frog (opposite); the trogon, Cuba's national bird (opposite, top); and more than 100 palm tree species, including the royal palm (above, near the Hatiguanico River).

"The most beautiful landscape in Cuba," Perera says of the vast marine terraces near Granma Park, which he helped establish.

ton Miller, chairman of the Switzerland-based World Commission on Protected Areas.

As wildlife and habitat have disappeared from the region, Cuba's importance as an ecological bastion has steadily risen. As one scientist put it, Cuba is the "biological superpower" of the Caribbean. The island has the largest tracts of untouched rain forest, unspoiled reefs and intact wetlands in the Caribbean islands. Cuba also is home to many unique, or endemic, species, including the solenodon, a chubby insectivore that looks rather like a giant shrew, and the bee hummingbird, the world's smallest bird, weighing less than a penny.

Condos and hotels carpet large parts of the Caribbean. Population pressures and poverty have turned much of Haiti into a denuded moonscape that bleeds topsoil into the ocean every rainy season. Cuba's environment, too, has in the past suffered the ill effects of unchecked logging, the conversion of lowlands into sugarcane fields, urban overdevelopment and pollution in Havana Bay. Still, with its anachronistic rural life and largely healthy ecosystems, the island is a sort of ecological Brigadoon, offering a vision of the Caribbean of long ago. Neat thatch-roofed villages line quiet roads; litter-free highways connect provincial cities whose approaches are graced by tamarind or guaiacum trees. Large populations of migratory birds flock to Cuba—ducks, vireos, sapsuckers and woodpeckers—and wetlands hold a gorgeous profusion of warblers, egrets, herons and flamingos.

Whether Cuba can continue to remain a holdout is, of course, a great question. Much of the nation's ecological health can be chalked up to planning by Fidel Castro's regime, to be sure; but Cuba is an elysian vision also by default. Roads are unlittered partly because there's nothing to litter. During the Soviet era, which ended in 1991, Cuban industry and agriculture, boosted by Soviet support, proved highly polluting, but now many factories and fields are idle. Population pressure is not a problem; indeed, thousands risk their lives each year to flee. A recent analysis by the Heritage Foundation and the *Wall Street Journal* ranked Cuba as the world's second most repressive economy, behind only North Korea.

But unlike North Korea, Cuba seems on the verge of change. Commerce abhors a vacuum, and it appears that this beguiling island cannot indefinitely resist development. Spanish, Canadian, Dutch, Swedish, Norwegian, German, French and other investors have taken advantage of the 43-year-old U.S. trade embargo to forge their own trade relationships with Castro's government. And the pressure to develop the island is likely to increase if—or when—Cuba resumes trade with the United States.

John Thorbjarnarson, a zoologist with the Wildlife Con-

EUGENE LINDEN, who covers the environment and science, is profiled in this month's Editor's Note. LYNDA RICHARDSON *covered 1,000 miles taking 2,376 photographs in Cuba.*

We drive through what must be one of the least built-up parts of the Caribbean, and the experience is actually disorienting.

servation Society in New York, has worked in Cuba for several years. He says that although development poses a threat to Cuba's ecology, the nation "stands head and shoulders above anywhere else in the Caribbean in terms of government support for conservation."

ONCE OUT OF THE Holguín airport, where we started our improvised ecotour, we seem to travel back in time. Oxcarts and bicycles abound, and evidence of modern construction or technology is scarce. Very little in the way of consumer goods manages to get into Cuba, partly because the government is broke but also because officials micromanage decision making about imports to a grinding halt.

Alexander von Humboldt National Park, in the eastern part of the island, covers almost 300 square miles on the border of Holguín and Guantánamo provinces. Driving there, we go through what must be one of the least built-up parts of the Caribbean, and the experience is disorienting. The few cars we see are well-preserved relics, long gone from their country of origin: DeSotos, Studebakers, Willys, Nashs and many other extinct models. If Cuba is a center of endemism for wildlife, it might be called a center of end-upism for cars.

Along the road, billboards stand vigil. "Socialism or Death." "Men Die, the Party Is Immortal." The slogans might seem outdated four decades into Castro's regime, but for many Cubans the Communist fervor still runs strong. Accompanying Perera and me on this leg of the journey is Alberto Pérez, a white-haired information officer with the United Nations Development Programme (UNDP). He says that he grew up rich in Cuba, that his father owned 16 houses and that his family lost virtually everything when Castro took power. But he swears it was all worth it because of what Castro has done for the poor. Apparently, not everyone in his family agrees. His sister fled to Florida.

We pass through a village and Pérez sees *anon*, knobby pink-fleshed fruit also known as sugar apples, at a stand by the side of the road. We buy a bunch of them as well as cups of fresh sugarcane juice. The fruit has a vanilla-like flavor and would make excellent ice cream. The sugarcane juice is cool and refreshing, not overly sweet. Around a neatly trimmed fence post made of the cactuslike euphorbia, or milk bush, we watch an old man pull pieces of sugarcane through a metal device that strips off the outer layer. He's wiry and fit and cheerfully offers his age—81—adding that "the work isn't hard, but this hangover is."

Pérez buys out the stand's supply of sugar apples for friends back in Havana. On the road, we go through Marcané and Cueto, villages immortalized in song by the 95-year-old guitarist and singer, Compay Segundo, known to many Americans from the *Buena Vista Social Club* movie and sound track.

Having traveled through many poor rural villages in Africa, Asia and Latin America, I'm amazed at the cleanliness, orderliness and the seeming functionality of these towns. Luis Gómez-Echeverri, former director of the UNDP mission in Cuba, says the poorest Cubans have a better standard of living than poor people in any of the 82 countries he has visited. Though Cubans have little economic freedom, the U.N.'s annual Human Development Report ranks Cuba among the top five developing countries in terms of education and access to clean water, medicine and housing.

At the same time, nowhere do people in elite professions such as medicine and science make less money than in Cuba.

The largest island in the Greater Antilles, Cuba covers 42,867 square miles. Conservationists worry that if the island opens after Castro's death, its 300 beaches will attract developers, spoiling the environment.

MIKE REAGAN

If the ivory-billed woodpecker still exists anywhere on earth, it is likely to be atop a plateau deep inside Humboldt Park.

A physician typically earns no more than $100 a month. Bartering is common. The Cuban term is *resolver* (to resolve), and the word might describe the juggling act by which a mother with a new baby will trade a dress for a hen to lay eggs, and then trade the eggs for goat's milk.

We stop for lunch in Moa at a *paladar* (a private home that sells meals). The house, simple in the extreme and spotless, would make an Amish farmhouse look like Trump Palace. A lunch of grilled swordfish for four people costs $12.

As we wend our way toward the Humboldt rain forest, Perera spots a rare plant by the road, *Dracaena cubensis,* which has adapted to a type of rocky, nutrient-poor soil called serpentine that contains levels of magnesium toxic to other plants. This shrub-like plant is so specialized to serpentine formations, Perera says, that botanists have not been able to grow it in the botanical garden in Havana.

Leaving the road and plunging into the park in the SUV, we ford a couple of streams and negotiate a dirt path. Perera and I then hike past thickets of delicate and seductively fragrant mariposa (Cuba's national flower, a designation that disturbs Perera because it is not native to the island) until we come to a ledge where I see a vista of rain forest-carpeted slopes punctuated by waterfalls. Some parts of the park are so remote that they have not been systematically explored.

Perera was largely responsible for the park's creation. While most of the nations that attended the United Nation's 1992 Earth Summit in Rio de Janeiro forgot about its commitments to halt the destruction of species, reduce poverty and prevent climate change not long after their jets left the runway, Perera and the Cuban delegation have sought to preserve the island's biodiversity. And the logical place to start was in the eastern forests that became Humboldt. With 905 plant species, Humboldt contains 30 percent of Cuba's endemic plants, and also has the most plant diversity in the Caribbean. The park also provides habitat to many birds, including the bee hummingbird. Most intriguing, if the ivory-billed woodpecker still exists anywhere on earth, it is likely to be atop the plateau deep inside the park. The large black-and-white bird has near mystical status among ornithologists, not least because it may have gone extinct despite feverish efforts to save it. The last confirmed sighting of the ivory-billed woodpecker in the United States was five decades ago. But scientists working in eastern Cuba came upon a pair of the birds in 1987, and the government moved to protect the area, setting aside forest that would become the core of Humboldt Park, named after Alexander von Humboldt, who explored the island 200 years ago.

Whether or not ivory-billed woodpeckers live in Humboldt Park, there's little doubt that the government's actions to save the bird highlight an environmental approach that differs from that of Castro's predecessor, the plunder-minded president Fulgencio Batista. Since Castro seized power in 1959, forest cutting has slowed markedly, according to Perera; forest cover has increased from about 14 percent in 1956 to about 21 percent today.

The headquarters for this section of Humboldt Park sits above Taco Bay. A couple of rangers take us for a spin around the lagoon in search of a manatee family that divides its time between Taco Bay and another lagoon nearby. In a dinghy, powered by an impossibly small outboard, we put-put across the placid waters, stopping first in a channel that becomes a tunnel as it passes under mangrove boughs—one of the few places in the world where pine forests meet mangrove swamps, Perera says. We encounter no manatees, but Taco Bay still looks like a wonderful ecotourism spot. Though the ranger station has a small bunkhouse for visitors, little seems to have been done to enhance such sites. Perera, speaking carefully (all Cubans speak carefully when touching on official matters), says the government has trouble delegating the authority for the planning and design of ecotourist ventures, making it difficult for entrepreneurs to get started.

Tact is especially valuable in a country where a verbal misstep can land one in jail. In its latest human rights assessment, Amnesty International reported in 2002 that a significant but unspecified number of Cubans were imprisoned for their personal beliefs and political dissidence. (In 1997, for instance, Cuban journalist Bernardo Arévalo Padrón was sentenced to six years in prison for saying in an interview that Castro lied and broke promises to respect human rights.) This past March, the Castro regime reportedly arrested at least 75 Cubans for alleged dissident activity—the largest roundup of political activists in decades—after a number of them had met with a member of the U.S. diplomatic mission to Cuba. A U.S. State Department spokesman said the arrests were a reaction to "independent individuals and groups which are willing to take a few more risks these days and express their opposition to, or independence from, the government."

ISLANDS SHOWCASE the capricious paths of evolution: their very isolation acts as a filter, minimizing somewhat the coming and going of species that make terrestrial ecosystems so diverse and complex. From an ecological point of view, Cuba is strategically situated between North and South America, with flora and fauna drawn from both continents. And it's a big island—750 miles long and up to 150 miles wide—the 15th largest on the planet. Arrayed around the main island are more than 4,000 other islands; some, like the Isle of Youth (890 square miles), are quite large. Many, according to Michael Smith, of Conservation International in Washington, D.C., serve as important refuges for endangered species.

Cuba's living world can be traced to the geological forces that created the place. Its mammals have a particularly South

With 354 reported species, 21 of them unique to the island, Cuba is exceptionally rich in birds. But at the same time, 37 avian species have been declared threatened, and 3 others may have become extinct in recent decades because of hunting, poaching or habitat destruction. Clockwise from upper left: West Indian woodpecker; Cuban parrot; Eastern kingbird; and Cuban screech-owl.

Why dwarfs flourish on islands is debated. Cuba has the world's smallest bird and scorpion, and also one of the smallest owls.

American accent, for instance. Most experts argue that South American primates, sloths and other animals reached Cuba on rafts of floating vegetation. Ross MacPhee, a mammalogist at the American Museum of Natural History in New York, has a different idea. He theorizes that a ridge, a part of which is now 6,000 feet below the Caribbean between the West Indies and South America, rose above the ocean surface 33 million years ago. For a little less than a million years, the bridge allowed animals to reach Cuba, which was then united with Puerto Rico and Hispaniola as one great peninsular mass contiguous with today's Venezuela. Evidence for this, he says, is the presence of ferric oxide, or rust, in the Aves Ridge seabed; the compound is formed when iron-containing soil is exposed to atmospheric oxygen.

However they got there, the island's animals and plants make for an eccentric mixture. Mammal species are scarce, though there's the tree-dwelling rodent, the hutia, and the insectivorous solenodon. Perhaps not surprisingly, the one mammal that flourishes on Cuba (and many other islands) has wings: bats. Plants that can float (or have seeds that float) also have become established. Cuba has a great diversity of palm trees—roughly 100 species. Reptiles, like the iguana and the crocodile, are well represented, too, perhaps because their capacity to estivate, or wait out the summer heat in a torpor akin to hibernation, suits them to ocean voyages on tree trunks and the like. Cuba ranks tenth in the world in reptile diversity, with some 91 different species.

Geology continues to shape island life. An abundance of limestone-rich terrain is heaven for mollusks, particularly snails, which fashion their shells out of the mineral. In western Cuba, erosion has created steep-sided limestone hills called *mogotes*. A snail originating on a particular mogote is essentially limited to it, so snail evolution follows its own course on virtually each mogote, producing a great number of species. Cuba has hundreds of different snail species, including the gaudy polymita of the island's eastern region; it might be green, red, yellow or some combination of colors. Alas, the polymita is critically endangered because people collect its shell; the Cuban kite, a bird that feeds on the mollusk, is also disappearing.

In nature, one animal's absence is another's opportunity, which may partially explain a peculiarity of islands: disproportionate numbers of both gigantic and tiny creatures, such as the giant lizards and tortoises on some islands today, and the pygmy rhinos on Borneo. (Not to mention a 300-pound rodent, *amblyrhiza*, that once graced, if that is the word, Anguilla.) Cuba is home not only to the world's smallest bird but also the smallest scorpion (*Microtityius fundorai*), a big-voiced tiny frog (*Eleutherodactylus iberia*) and one of the world's smallest owls. There is a small insect-eating bat (*Natalus lepidus*) with an eight-inch wingspan as well as a gigantic, fish-eating bat (*Noctilio leporinus*) with a two-foot wingspan.

Why dwarfs and giants flourish on islands has long provoked debate among biogeographers. J. Bristol Foster of the University of British Columbia theorized in the early 1960s that reduced predation and competition on islands allow species to expand into unusual ecological niches. There can be powerful advantages to the extremes, researchers say. Gigantism may offer otherwise diminutive mammals like rodents access to new food sources. Dwarfism may give a large-bodied animal an edge in lean times, and on an island, where predators are few, a dwarf won't necessarily pay a penalty for its size.

Moreover, a key element of island biology is that, just as living things are suited to the extremes, they are especially susceptible to being wiped out when the environment to which they are so finely adapted is disrupted. So says E. O. Wilson, the Harvard biologist and pioneer of island biogeography, who points out that most of the major extinctions caused by humans have occurred on islands.

Human beings settled Cuba about 5,500 years ago, many thousands of years after they established themselves on the continents. Humanity's relatively recent appearance in Cuba may explain why some animals persisted longer there than on the mainland. The giant sloth, for instance, vanished from South America roughly 11,000 years ago, presumably after being hunted to extinction, but held on another 5,000 years in Cuba. Numerous endemic Cuban species are threatened by human activity, biologists say. Among them are the solenodon, whose numbers have been reduced by feral dogs, and the hutia, which is illegally hunted for food. The Zapata wren is endangered largely because of habitat destruction, the Cuban pygmy owl because of logging, and the Cuban parrot because of a thriving illegal pet trade. Ross MacPhee says the Cuban government can't afford to enforce environmental regulations, but most environmentalists I spoke with disagreed with that assessment, saying the government backs up its conservation laws.

CONTINUING ALONG the northeast coast to Baracoa, we stop at a church to see a remnant of the cross said to have been left by Christopher Columbus in 1492. (When Columbus landed he reportedly said, "This is the most beautiful land that human eyes have ever seen.") The cross, shown by radiocarbon dating to be about 500 years old, is made of coccoloba, a relative of the sea grape. Originally more than six feet tall, it has been whittled to half its size by relic seekers. Given the island's tumultuous history of invasions, wars and pirates, not to mention atheistic Communists, it's something of a miracle that even a splinter of the cross remains.

From Baracoa we head over the mountains toward the south coast, passing Cubans hawking goods to tourists. Among the items are protected species—polymita snails and Cuban parrots. The parrots have drab green feathers, mod-

Cuba's 6,505 plant species, half of which are unique, make the island a high priority for biodiversity-minded conservationsts. Clockwise from top left: *Epidendrum difforme* orchid; a melocactus, seen near Santiago de Cuba; a *Dracaena cubensis*, which withstands toxic serpentine soil near Humboldt Park; a sesuvium succulent, growing inside a fossil deposit near the Bay of Pigs.

Bats (like this hot caves bat, so named because of its high-temperature quarters) are among the few mammals to abound on Cuba.

eled, it would appear, on the fatigues favored by Castro. Pérez, seeing the contraband sales, wants to stop. But Perera says no. "If we stopped," he says, "I would feel obligated to denounce the sellers and have them arrested, and we would spend the rest of the day on this."

Traversing the pass through the Nipe-Sagua-Baracoa Mountains, we leave the range's rain shadow, and the tropical forest soon gives way to desertlike dryness. Along the southeast coast are remarkable marine terraces, including the most dramatic, at Punta Caleta. The limestone formations look like giant steps, the risers formed by cliffs dozens of yards high. Exposed by geologic uplifting, they offer an extraordinary record of past sea levels. Geophysicists flock here to "read" the climate record encoded in these marine terraces, which are said to be the oldest, largest, most elevated and least altered on the planet.

As we pass Guantánamo on our way to Santiago de Cuba, Perera remarks sardonically that the DMZ surrounding the United States naval base—wrested from the Cuban government in 1898 and then leased for 99 years beginning in 1934—is the most protected environment in Cuba, because it is guarded by fences and armed sentries (and reportedly ringed by land mines that Cubans placed outside the fences). Maybe someday it will be a park, Perera speculates.

A site of historical significance to Cubans that is already a nature reserve is Desembarco del Granma National Park. It marks where Castro, upon returning from exile in Mexico on December 2, 1956, disembarked from the yacht *Granma* and began the revolution. Castro chose the spot for its remoteness. The area more recently captivated Jim Barborak, an American protected-area specialist with the Wildlife Conservation Society. His evaluation of the local geomorphology—marine terraces reaching from several hundred feet above sea level to deeply submerged reefs—helped get the park designated a U.N. World Heritage Site. Barborak wrote in his report that it was "one of the most impressive coastal landscapes in the Americas from the Canadian Maritimes to Tierra del Fuego."

What happened after Castro landed here, as Perera tells the story, would later bear on the government's approach to wildlands. Three days after Castro landed, Batista's troops took Castro's guerrillas by surprise in Alegría de Pío. Outgunned, the rebel force scattered. An illiterate farmer named Guillermo Garcia Frías assembled the survivors, including Fidel and his brother Raúl, and led them into the Sierra Maestra, where they regrouped. For saving Castro's life and then leading the ragtag revolutionaries to safety, Castro made Garcia one of five comandantes of the revolution. He later became a member of the central committee and the politburo. A nature lover, Garcia turned to preserving the Sierra Maestra. He hired Perera in 1979 fresh out of the University of Havana's biology program to work on preserving biodiversity.

The Hatiguanico River, largely untouched by industry or farming, flows through the Zapata Swamp. Tarpon is the catch of the day.

The shift to more organic methods of farming exemplifies the sort of conservation-by-default that has helped the environment.

Mary Pearl, president of the Wildlife Trust, based in Palisades, New York, says that Garcia's ties to Castro established a strong environmental ethic for a generation of scientists and officials. As a result, says Pearl, coeditor of the book *Conservation Medicine: Ecological Health in Practice*, Cuba's ecosystems are in the best shape of all islands in the Caribbean.

The Florida Straits off Cuba have the greatest diversity of marine species in the hemisphere, according to a recent U.N.-sponsored study by Michael Smith. In addition, Cuba's wetlands have seen a dramatic reduction in the pesticide runoff that mars wetlands in other countries, as farmers turn from expensive chemicals to organic means of fertilizing and controlling pests. Though the shift probably would not have occurred without the Soviet Union's collapse, which impoverished Cuba and limited its access to agrichemicals, it is an example of the sort of conservation-by-default that has benefited the island environment.

Now Cuba's ecology is increasingly a concern of outside organizations. The UNDP channels roughly $10 million a year in aid into Cuba, one-third of which goes into environmental projects such as supporting protected areas, cleaning Havana Bay and helping Cuba devise new coastal management plans.

ORLANDO TORRES is a short, balding, middle-aged ornithologist and professor of zoology at the University of Havana. He has boundless energy. I don't think I've ever encountered anyone who enjoys his work more. He's not in it for the money; he earns $23 a month.

He's eager to show off Zapata Swamp National Park, another preserve with historical importance. Zapata encompasses the Bay of Pigs, where the 1961 CIA-assisted assault by Cuban exiles failed disastrously. The swamp covers about 1,900 square miles, or the size of Delaware, and remains sparsely populated, with only 9,000 permanent residents; 60 to 70 percent of its area is undeveloped.

The Hatiguanico River, which runs westward on the Zapata Peninsula, is largely untouched by industry and agriculture. Cesar Fernandez, the local park ranger, takes us down the river in an outboard-powered boat. The water is clear and teems with tarpon and other fish. The surrounding trees and swamp foliage are crowded with birds. As we move downstream, herons, egrets, kingfishers and other birds take flight ahead of us. Turtles, sunning themselves on branches, plunk into the river. At a shimmering pool, I dive in, and feel the cool springwater rising from the

If seeing a trogon is worth a dollar, says my guide, a screech-owl would be worth a million. Knowing his salary, I get the picture.

depths. Divers have so far probed as deep as 200 feet, Torres says, with no bottom in sight.

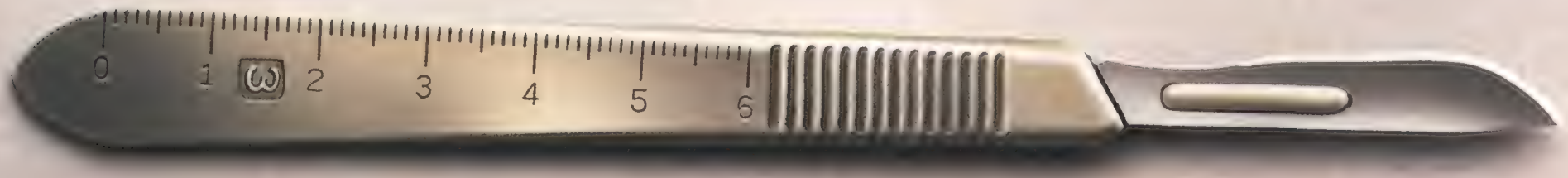
Torres keeps a tab of bird species. In the first hour he counts 25. Though hunting and poaching do occur, on the whole wildlife may be the beneficiary of the police state; the government restricts hunting and does everything it can to keep guns out of private hands.

That river trip was a mere appetizer for the visual feast we would encounter the next day. In an eastern part of the swamp, we walk along a path into the park near the head of the Bay of Pigs, stopping at Salinas, a salt flat that once supplied the mineral for trade but long ago reverted to a natural state. At a ranger station, we pick up a former forester and the park's premier guide, and head into the swamp. He and Torres name the birds they spot—here a broad-winged hawk, there, black-necked stilts on ridiculously spindly legs. The two are hoping to eye a trogon, Cuba's colorful national bird whose colors are red, white, blue and green—a palette that a Yankee environmentalist might see as saluting the island's proximity to its giant neighbor as well as its ecological good citizenship.

I see a tall bird with a white chest perched by itself on a tree stump in the wetland. But it flies off before I can ask the experts to identify it. Torres thrusts a bird book into my hands and asks me to point out the creature. After riffling through the pages a few times, I finger an ivory-billed woodpecker. Torres laughs. But hey, the bird really did look like the fabled relic.

Halfway to the coast, the guide leads us into a dry part of the swamp to a stand of dead palms. He studies the hollow stumps and then starts scratching on one. A moment later a tiny head appears and looks down at us with a combination of indignation and suspicion. Torres is ecstatic. It's a small screech-owl, *Otus lawrencii*. "This is a very good record," he says. "I spent a week looking for it with an English bird expert and failed to find one." Trying to convey the significance to a nonbirder, he says, "If a trogon is worth a dollar, the bare-legged [or screech-] owl is one million dollars." Knowing Torres' salary, I get the picture.

LEAVING CUBA, I was struck by the incongruity of so much pristine beauty so close to the Caribbean's many overdeveloped islands. For an American, this is a lost world a scant 90



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miles from home. It was also hard to digest the irony that the forces that have worked to preserve nature in Cuba contradict so many tenets of conventional wisdom about conservation.

Trying to sort out my reactions I imagine a summit meeting on sustainable development, which is an approach to achieving economic growth without destroying natural systems. Asked to describe their dream of an environmental paradise, the sustainable development mandarins describe a land of high biodiversity with a stable, educated population; a government dedicated to protecting natural resources; a populace that wasted nothing; an agriculture that pursued organic methods and minimized toxic runoff.

Collected for their shells, polymita snails (in Humboldt Park) are becoming scarce.

Such a place aleady exists, I say.

"What's the standard of living?" the mandarins ask.

Well, I'd say, it's one of the poorest nations in its hemisphere, and the economy is so screwed up that doctors work as housekeepers because they can earn six times the hard cash they get for being a surgeon. Then I point out that the government is not a democratic republic but a Communist police state.

That, of course, is the rub. It is unlikely that there will be a stampede among nations to replicate Cuba's path toward sustainable development. In Cuba, Communism and poverty have not proved as disastrous for nature as they have elsewhere. In Soviet Russia, the need for productivity spurred central planners to pursue agricultural policies that poisoned rivers and destroyed lands on an epic scale. In contrast, Cuba's move toward organic farming has had beneficial side effects on bird and fish populations. Farmers have learned to live with a trade-off in which they tolerate birds eating some of their crops as a type of wage for the birds' work controlling pests.

It is easy to be seduced by Cuba's beauty, but some ecologists temper their enthusiasm for Cuba's future. MacPhee wonders whether ecological trends in Cuba are as healthy as they seem at first blush, and contrasts the island's future with that of Puerto Rico, once a prime example of honky-tonk development. Cuba may have more of its original forests left, says MacPhee, but Cuba's poverty and dependence on agriculture means that wildlands remain under threat. In Puerto Rico, he

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1. Blasko JC, Grimm PD, Sylvester JE, Badiozamani KR, Hoak D, Cavanaugh W, "Palladium-103 Brachytherapy for Prostate Carcinoma," *Int J Radiat Oncol Biol Phys*, March 2000, 46(4), 839-850.
2. Potsky AL, Legler J, Albertsen PC, Stanford JL, Gilliland FD, Hamilton AS, et al. Health Outcomes After Radical Prostatectomy or Radiotherapy for Clinically Localized Prostate Cancer: Results from the Prostate Cancer Outcomes Study (PCOS). J Natl Cancer Inst 2000; 92:1582-1592.
3. The most commonly reported side effects of prostate brachytherapy are short-term urinary or obstructive symptoms within the first few weeks after the implant procedure.

Likely as not, Cuba's natural areas will be buffeted by colossal forces when the nation, now on the brink of change, opens up.

says, the forests have staged a remarkable recovery since World War II as the economy has shifted away from crops.

In the United States, practically anything concerning Cuba arouses passion and even anger, and the island nation's environment is no exception. Sergio Díaz-Briquets, a consultant with the Council for Human Development, and Jorge Pérez-López, a U.S. Labor Department economist, have authored a recent book, *Conquering Nature*, arguing that socialism has harmed Cuba's ecosystems and that any recent "greening" of the Castro regime is cosmetic. They describe Zapata Swamp as a wounded ecosystem that faces dire threats from drainage schemes, peat extraction and wood cutting for charcoal.

But Eric Dinerstein of the World Wildlife Fund, the author of one study cited by Díaz-Briquets and Pérez-López, disputes their interpretation of the evidence. In fact, Dinersten says that the Zapata Swamp appears better off than wetlands elsewhere in the Caribbean. A new, unpublished edition of his study, Dinerstein adds, shows that Cuba is making progress by increasing the acreage of protected wetlands.

Likely as not, Cuba's natural areas will be buffeted by colossal forces when the nation, now on the threshold of a dizzying political and economic transition, opens up. Not all of Cuba's 11 million people necessarily share their leaders' austere ideology, and many may want to satisfy material aspirations. Conservationists fear that Cuban exiles will return to their homeland with grand development plans, undermining environmental safeguards. There are precedents. In Russia during the Soviet years, apparatchiks trampled forests and polluted rivers out of ignorance; now many of those same officials, turned capitalist, plunder nature for profit.

Cuba just might be different. A network of protected areas is in place, and the regime's singular blend of oppression, poverty and environmentalism has created an unusual wealth of wildlands. To me, that legacy was embodied in a ruined old estate in the forest overlooking Taco Bay. Before the revolution, the estate was owned by Americans remembered by locals today only as "Mr. Mike" and "Mr. Phil." The ghostly villas have no roofs, and strangler figs slowly crack apart the remaining walls of the crumbling building. To some, the sight is a sad reminder of a lost way of life. But it's also a sign that nature, given a chance, will prevail. ○

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Still Ahead of His Time

Born 200 years ago this month, Ralph Waldo Emerson had some strange ideas about the natural world. Recent research suggests they might even be true — BY FREDERICK TURNER

WITHIN LIVING MEMORY of the signing of the U.S. Constitution, the authentic cultural voice of America had spoken, outlining the future of American science, philosophy, scholarship, poetry and even landscape design. Today, many people do not know Ralph Waldo Emerson, and many of those who do, consider him at best a 19th-century transcendentalist or, at worst, the Dale Carnegie of belles lettres. But Emerson, who was born 200 years ago this month, prophetically mastered a wisdom that could have saved us all a lot of trouble by clarifying our place in nature.

A gift seems to have been granted to certain people in the moments in history we call renaissance. One can hear the gift in the voice of that time—a confident exuberance, accepting the tragic aspect of life, but also full of hope and belief; capable of a genial irony but devoid of cynicism and academic intellectual vanity. It is a voice that more cynical or exhausted ages find annoying.

Emerson is a renaissance voice. Living in the afterglow of the New England Puritan age of faith, and in the dawn of America's political, artistic and exploring power, Emerson combined a boisterous energy with a rational and judicious piety. Too intellectually adventurous to remain a Unitarian minister (he became fascinated by Hindu theology), he did not abandon his religious tradition altogether. At the center of his insights was a vision of nature's intimate relationship with the human and the divine.

"I hate quotations," Emerson wrote. "Tell me what you know."

In 1836, Emerson caused a stir when he published a long essay, "Nature." At 33, he had finally broken with his church, moved from Boston, where he was born and grew up, to Concord, Massachusetts, and set out to create his own theology. "Nature," which Emerson revised and later published in a collection with the same title, would influence European thinkers such as Thomas Carlyle and Friedrich Nietzsche and would become an almost sacred text for Emerson's American disciples, including Henry David Thoreau, Bronson Alcott (the educator and abolitionist) and Margaret Fuller (the feminist), who went to sit at the feet of the prophet.

The ideas Emerson put forth in a second, more prophetic essay also entitled "Nature," published in 1844, boil down to two concepts: first, that a purely scientific understanding of our physical being does not preclude a spiritual existence; second, that nature embodies a divine intelligence. Reconciling those views, he argued that we need fear neither scientific progress nor the grand claims of religion.

In one of his most striking prophecies, the Sage of Concord seems to have anticipated the theory of evolution by natural selection as it would be developed by Charles Darwin in *The Origin of Species,* published in 1859. Like Darwin, Emerson emphasizes the importance of the newly discovered antiquity of our planet: "Now we learn what patient periods must round themselves before the rock is formed, then before the rock is broken, and the first lichen race has disintegrated the thinnest external plate into soil, and opened the door for the remote Flora, Fauna, Ceres, and Pomona, to come in. How far off yet is the trilobite! how far the quadruped! how inconceivably remote is man!"

Emerson combines this idea with the observation by Thomas Malthus (1766-1834) that organisms tend to multiply beyond their resources, giving us a capsule version of natural selection. "The vegetable life," Emerson says, again prefiguring Darwin, "does not content itself with casting from the flower or the tree a single seed, but it fills the air and earth with a prodigality of seeds, that, if thousands perish,

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thousands may plant themselves, that hundreds may come up, that tens may live to maturity; that, at least one may replace the parent." Certainly, with the parable of the sower, Jesus beat Emerson to the punch; but as Emerson himself might have said, there is a kinship among prophets, and they speak to each other across the millennia.

Emerson also seems to have anticipated by about 80 years Erwin Schrödinger's and Albert Einstein's discovery that matter is made of energy. "Compound it how she will, star, sand, fire, water, tree, man, it is still one stuff, and betrays the same properties," Emerson writes, adding: "Without electricity the air would rot."

Recognizing the mathematical basis of physical reality, he seems aware that the apparent solidity of matter is the illusion that physicists would later show it to be: "moon, plant, gas, crystal, are concrete geometry and numbers." (I imagine Emerson would have been pleased by the discovery of quarks, which are bits of math spinning in a mathematical space-time field.) He already seems to intuit the Big Bang, the theory of the universe's birth that would not appear for another hundred years. "That famous aboriginal push," as he calls it, anticipating today's scientific understanding of the universe, is a continuing process that "propagates itself through all the balls of the system; through every atom of every ball; through all the races of creatures, and through the history and performances of every individual."

But Emerson is skeptical about the then-fashionable idea that nature was like a clockwork, a deterministic machine whose future—including our thoughts, feelings and actions—could be predicted if we knew everything that was happening at a prior moment. He, too, felt the "uneasiness which the thought of our helplessness in the chain of causes occasions us." But instead of accepting our fate as parts of a machine, he exalts nature's wonderful waywardness, which defies science's attempts at perfect prediction.

Emerson is no less perceptive of

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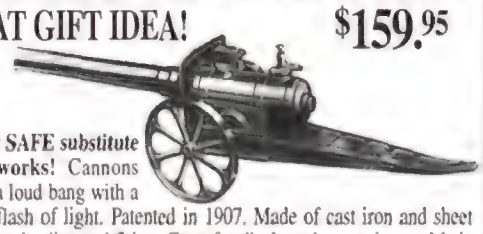
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human matters. He anticipates Abraham Maslow, the 20th-century psychologist, recognizing that we will pursue our higher, freer, more spiritual goals only after sating our lower ones. "Hunger and thirst lead us on to eat and to drink," he says, "but bread and wine . . . leave us hungry and thirsty, after the stomach is full." Before Freud, before the sociobiologists, Emerson realized the psychological implications of our animal descent. "The smoothest curled courtier in the boudoirs of a palace has an animal nature," he says, "rude and aboriginal as a white bear." But he draws conclusions that even now we have difficulty accepting—for example, that there is no meaningful distinction between the natural and artificial (or man-made). "Nature who made the mason, made the house," he says. There is no point trying to go back to nature; we are already there.

America largely ignored Emerson's insights about what is "natural" for a

Here's Waldo!

Lincoln, De Tocqueville, Tennyson, Twain—they all found a way to meet the Sage of Concord, Ralph Waldo Emerson. Yet his fame would dwindle, and he would become known to generations of schoolkids as a spacey ex-preacher who hung out with Thoreau. But Emerson's reputation is soaring again. In the past decade, scholars have produced nearly 1,000 articles and books on Emerson, who was born May 25, 1803 and died 78 years later. Events honoring his birth bicentennial include an exhibition of his papers at the Concord Free Public Library through May 30, and a September 20 conference in Boston on "Reawakening the American Soul."

"Hitch your wagon to a star," wrote Emerson, whose Concord, Massachusetts, residence (c. 1900) is now a museum, Emerson House.

For more about his impact on American culture as well as a rundown on Emerson-related events this year, see "Emersoniana," by Richard J. Higgins, on SMITHSONIAN's Web site: www.smithsonianmag.com.

The 1844 "Nature" essay is also on the site.

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century and a half. Instead, we divided the world into the populated urban wasteland and the "empty" untouched wilderness. Thus we felt justified in uglifying our cities while attempting to eradicate all change and human agency from our national parks. If we feel alienated from nature, it is because we are suffering a hangover from a certain vanity of thought that would raise us above and out of nature. But Emerson sees nature as potentially *improved* by human beings and human beings as the epitome of nature. Such a view would lead, as it has begun to do recently, to an environmental ethic in which human activity can enrich nature, rather than just lay waste to it or fence it off. "Only as far as the masters of the world have called in nature to their aid, can they reach the height of magnificence," he writes. "This is the meaning of their hanging-gardens, villas, garden-houses, islands, parks, and preserves."

If we had heeded Emerson, we might also have avoided the huge and costly mistake of dividing academic life into two fire-walled regimes, the humanities and the sciences. The consequence was not only that we have had generations of ill-educated young—scientists who know no poetry, poets who know no science—but something even graver. Free will, if isolated from the controlling gentleness and complexity of nature, readily becomes the will to power, which can serve (and has) as a rationale for genocide. We are only now beginning to see the madness of where Western philosophy has led us. Emerson's genial sanity can perhaps provide an antidote. As he says in "Politics," published in 1844, "the wise know that foolish legislation is a rope of sand, which perishes in the twisting; the State must follow and not lead the character and progress of the citizen. . . ."

Perhaps Emerson's most exciting prophetic insights are ones that have not yet been fully realized. Consider David Bohm's idea of the "implicate order," still only a gleam in the eye of physics, that all of physical reality might be thought of as a holographic projection. Emerson, intuiting that

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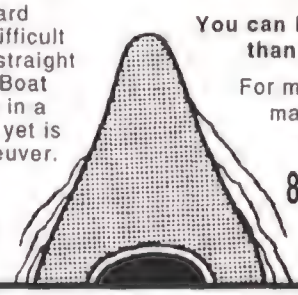

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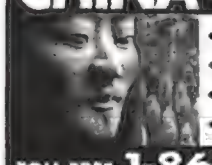

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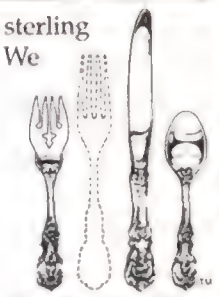

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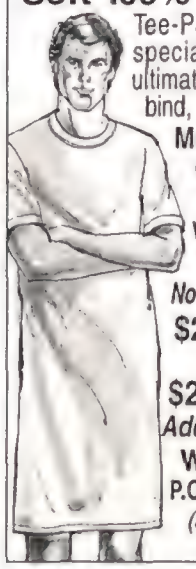

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concept a century and a half ago, says that, "from any one object the parts and properties of any other may be predicted." Like Stephen Wolfram, whose 2002 book *A New Kind of Science* advances a view of cosmology as the playing-out of a simple algorithm, Emerson suggested that the world is the result of a simple computational process repeated over and over. Emerson, like Wolfram, cites the seashell, saying of the "whole code of [nature's] laws" that "Every shell on the beach is a key to it. A little water made to rotate in a cup explains the formation of the simpler shells; the addition of matter from year to year, arrives at last at the most complex forms. . . ."

Emerson's greatest challenge to contemporary thought may be his view of evolution as a purposeful natural process—an idea vehemently rejected today. He argues that evolution harbors its own divine spirit and, therefore, that the universe is bursting with meaning. In his own time, Emerson was accused of being a pantheist, or a believer in the idea that nature *is* God, but that accusation misses its mark. For Emerson, nature is not God but the body of God's soul—"nature," he writes, is "mind precipitated." Emerson feels that to fully realize one's role in this respect is to be in paradise. He ends "Nature" with these words: "Every moment instructs, and every object; for wisdom is infused into every form. It has been poured into us as blood; it convulsed us as pain; it slid into us as pleasure; it enveloped us in dull, melancholy days, or in days of cheerful labor; we did not guess its essence until after a long time."

Certainly, Emerson's prophecy did not encompass cell phones, nuclear radiation and molecular genetics. But the American renaissance, of which he could fairly be called the founder, deserves to be revisited if we ever gather our culture together again for another bout of supreme creativity. ○

FREDERICK TURNER, professor of arts and humanities at the University of Texas, Dallas, is author of The Culture of Hope.

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LeBlanc argues that the impulse to wage war (U.S. carriers advance into Iraq in March) is deeply rooted.

CONSTANT BATTLES: THE MYTH OF THE PEACEFUL, NOBLE SAVAGE

STEVEN A. LEBLANC, WITH KATHERINE E. REGISTER

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OURS IS A WORLD immersed in war: Afghanistan, the Balkans, Kashmir, central Africa—and, of course, Iraq. The outbreak of so much global hostility may lead us to think this is the most violent era in human history. "For a variety of reasons," says Harvard archaeologist Steven A. LeBlanc, "almost everybody seems to be preoccupied with the idea that all was peaceful in the hundreds of millennia of the human past."

But consider the artifacts of the ancient Near East—the many surviving bas-reliefs and stelae incised with images of Assyrian warriors raiding and plundering and Egyptian pharaohs smiting their captives. The sweeping histories of Herodotus and Thucydides chronicle one brutal battle after another. Even among such "pacific" societies as Native Americans, the Aborigines of Australia, the Eskimos of the Arctic and the Bushmen of the Kalahari Desert, LeBlanc says, archaeological, anthropological and ecological evidence suggests that "warfare in the past was pervasive and deadly. Humans and war have always gone hand in hand."

And, he adds, modern states confront the age-old problems: "Who are our allies? What are our true long-term interests? And just how good is our assessment of our enemy's ability to fight? Every type of society must regularly make these judgments, and they often get them wrong."

The primary cause of war, as LeBlanc sees it, is ecological imbalance; humans compete for finite amounts of food when population outstrips supply or when the land becomes overgrazed and deforested. Conflict flash points—the Middle East and the Balkans, for instance—have a "long history of ecological stress and degradation."

LeBlanc argues that ecological balance was rarely the norm, even in pockets of paradise. One might expect, for example, that the inhabitants of Tikopia, a remote island in the South Pacific, would make fine stewards of their natural environs. But even they repeated the historical theme: "A few people occupy the . . . land, they exterminate many species, they heavily

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modify the landscape, and their numbers grow. They never remain in anything approaching ecological balance."

And the impulse to conduct warfare goes all the way back to our primate precursors. "Our closest ape relatives," he says, have always engaged in ferocious acts of warfare, chillingly reminiscent of human conflict (as Jane Goodall observed among chimpanzees in the jungles of Tanzania in the 1960s).

As humans evolved, violence was the norm; the "fantasy," as LeBlanc characterizes it, of the noble savage, is a distinctly modern invention (first advanced by Jean-Jacques Rousseau and his followers in the 18th century). Skeletal remains of humans from sites all over the world reflect horrific violence. At burial locations of the ancient Aborigines of Australia—hunter-gatherers with no permanent settlements—we find "evidence of violent deaths and even massacres, and specialized weapons useful only for warfare."

The replacement of foraging by farming, a development that occurred sometime around 10,000 B.C. in what is now, ironically enough, Iraq, placed a great many stresses on the environment. As populations began to rise, natural resources were increasingly exploited. Thus warfare, in the age of emergent agriculture, "became more common and deadly than forager warfare."

Though LeBlanc's arguments are inevitably grounded in pessimism, he does not believe that humans are genetically precluded from peaceful coexistence. "As long as resource scarcities continue in many parts of the world," he writes, "I expect conflict based on competition over resources to continue, even if it is sometimes disguised as ideological. This does not doom us to a future of war any more than our past dooms us to a future of heart attacks." But "if we do not strive to understand what we have done in the past and why," he says, "it will only make it harder to get it right in the future."

Reviewer SUDIP BOSE is senior editor of Archaeology Odyssey *magazine.*

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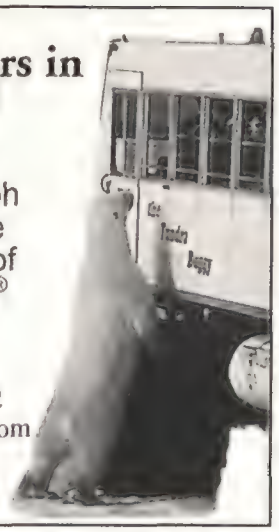

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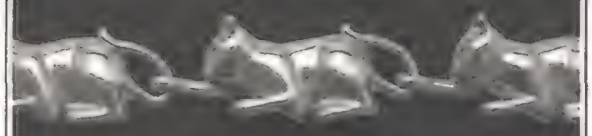

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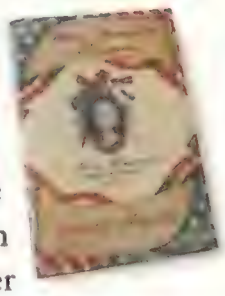

I'M NOT SURE that Judith Martin admires the take-him-down-a-peg strain in the American character as much as I do, but she sure understands it. For me this attitude was best exemplified by a waitress in a Nevada truck stop. I told her I wanted a cheeseburger. "Do you always get what you want?" she replied.

There is something refreshingly egalitarian about such salty churlishness, and what Martin, a.k.a. Miss Manners, does here is explain that American manners (and yes, there is such a phenomenon) stem from a belief in equality that began with the founders.

Star-Spangled Manners is not a collection of Martin's columns, which are syndicated in 200-plus newspapers, but rather a well-argued essay that identifies and describes a specifically American etiquette. It may be inflated to about twice its necessary length, but it's relieved by her humor, which leans more to the clever mot than the down-home har-de-har-har.

Her subject is the American character, particularly our abiding optimism. "Dewy-eyed third marriages," she writes, "and fortunes garnered after bankruptcy keep the general optimistic blaze rekindled." There is also our work ethic. "In the American story, virtue was expected to remain actively striving, thus quashing the chief attraction of belonging to the upper classes, elsewhere known as the leisure classes." We're uneasy, she says, with too much leisure (though I know of a couple of exceptions). And we're uneasy with servants. We don't quite know what to make of them, beyond knowing that we don't want to *be* one.

Martin is obviously having a good time. Here she is on weddings: "As bridal couples will often say, they expect this to be the happiest day of their lives. Alas, this could be only too true." ○

Reviewer DONALD DALE JACKSON lives in rural Connecticut.

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The Hand That Rules the World

Woodrow Wilson (a self-described mama's boy) made it official in 1914. Happy Mother's Day

Mom Debbi Sereseroz holds Megan, 6, waving to departing National Guard dad in February.

Shavanaas Begum (India, 1989) lifts for Parveen.

JoAnn Salazar (in March) hugs her daughter Amy.

An Eskimo mother and child pose circa 1905.

The hand that pushes the carousel: a Hutterite mother gives her children a whirl (1988).

CLOCKWISE FROM TOP LEFT: J. ALBERT DIAZ / MIAMI HERALD; MARY ELLEN MARK; ED LANDROCK / AP; ROBB KENDRICK / AURORA; LOMEN BROTHERS / LIBRARY OF CONGRESS

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Florida has picturesque small towns, old growth forests, unique wildlife, fascinating historical sites, silver sand beaches, and a wealth of cultural experiences you will not find anywhere else. Every corner of our state has marvelous and unexpected treasures awaiting and this edition of *Undiscovered Florida* will assist you in charting your own adventure.

On behalf of the people of Florida, I bid you a warm welcome and best wishes for an exciting, enjoyable, and most importantly, a memorable visit.

Sincerely,

Jeb Bush

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ORIGINAL FLORIDA

Historical reenactment

A friendly reminder. Observe, but please do not disturb. Please remember to treat our local resources, landscape and wildlife with respect. We hope you develop an understanding of our natural systems and cultures in the context of our history, evolution and adaptation. Please help protect Florida's natural, historical and cultural resources so they will be just as beautiful for your children and grandchildren as they are for you today. Thank you.

About this guide. *Undiscovered Florida* focuses on the state's state and national parks, gardens, historic sites and monuments, cultural and Native American attractions, private attractions and resources. Florida's wealth of nature and heritage sites is enormous, and the information in this guide represents only a part of those assets. Readers are encouraged to contact the various entities listed as resources and visit their websites for more detailed information.

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Undiscovered Florida has been produced in cooperation with VISIT FLORIDA. Every effort has been made to ensure the accuracy of the information contained in this guide, but neither the publisher nor VISIT FLORIDA assumes responsibility for omissions, errors or changes. On the cover: Ponce Inlet Lighthouse. Photo: VISIT FLORIDA.

GEORGE GENTRY/USFWS

Fly fishing at J.N. "Ding" Darling National Wildlife Refuge, Sanibel Island

Reel Fun

Lisa Simundson

Florida is the Fishing Capital of the World

The numbers say it all: 2,000 miles of coastline, 12,000 miles of rivers and streams, 7,700 lakes greater than 10 acres, and more than 700 world fishing records. Fishing enthusiasts say it, too, by choosing Florida more often than any other U.S. fishing destination, according to the U.S. Fish and Wildlife Service.

But while many anglers choose to ply the sparkling waters of the Atlantic Ocean or Gulf of Mexico looking for the "big one"—marlin, sailfish, giant grouper, tuna, dolphin (also known as mahi mahi), barracuda and more—others prefer to get off the beaten waterway to enjoy the more laid-back adventures offered by Florida's teeming inland rivers, canals and lakes.

For one thing, it's more affordable. In most cases, you won't even need a boat. Just pull your tackle box up to the nearest lake or riverbank, and you're ready to go. And it's hard to beat the setting, surrounded by dense forest or thick brush while being serenaded by birds and crickets.

FLORIDA STATE PARKS

Florida's top prize, the largemouth or black bass, is found statewide, though the fish tends to grow biggest in the productive waters of central Florida. Another top catch, bream, also are plentiful throughout the state, with varieties including bluegills, redear (shellcrackers) and redbreast sunfish. Striped bass are found primarily in the St. Johns River and its tributaries, while Lake Okeechobee is the premier fishing area for

Fishing in Florida

Most resident anglers between 16 and 65, and non-residents 16 and older, will need a license to fish Florida's abundant inland waters. For more details, and information on basic freshwater fishing regulations, fishing tips, and seasonal fishing facts, visit www.floridafisheries.com or call (888) FISH FLORIDA to purchase an instant license.

VISIT FLORIDA

Apalachicola

black crappie (specks). For those who want to fry up their catch of the day that night, the humble catfish is the perfect prey, and is abundant throughout the state.

Whether you're a novice or an experienced angler, www.floridafisheries.com features everything you need to know about freshwater fishing in Florida, including which lures and bait are most effective as well as optimum seasonality and temperature ranges to maximize your catch. You can also check their fishing sites/forecast page for prime fishing sites and quarterly forecasts. Some areas have restrictions on largemouth bass fishing, so be sure to check before you drop your line.

FRED CROSS/FWC

Kids' fishing derby at Tenoroc Fish Management Area

Turn to page 8 for a list of secret spots. For salt-water fishing tips, visit www.marinefisheries.org.

For destination information, turn to page 38.

DANON MOXLEY/FWC

Quality bass fishing in central Florida lakes

The Top 30. Want a sure thing? These 30 lakes, rivers and canals were named by the Florida Fish and Wildlife Conservation Commission as consistently good inland fishing destinations. Largemouth bass, bream, catfish and sunshine bass are just some of the excellent catches you'll hook in these waters.

1. Escambia River
2. Hurricane Lake
3. Lake Karick
4. Choctawhatchee River
5. Apalachicola River
6. Lake Seminole
7. Lake Talquin
8. Ochlockonee River
9. Suwannee River
10. St. Johns River
11. Oklawaha River
12. Lake George
13. Lake Panasoffkee
14. Lake Jessup
15. Lake Tarpon
16. Lake Louisa
17. Tenoroc Fish Management Area
18. West Lake Tohopekaliga
19. Lake Weohyakapka, Walk-in-Water
20. Lake Kissimmee
21. Lake Marian
22. Kenansville Lake
23. Farm 13/Stick Marsh Reservoir
24. Lake Istokpoga
25. Lake Okeechobee
26. Lake Trafford
27. Cypress Creek, C14
28. Tamiami Canal, C4
29. Everglades Water Conservation Areas 2 and 3
30. Cutler Drain Canal, C100

VISIT FLORIDA

For more information, visit www.floridafisheries.com.

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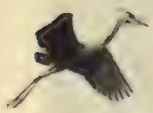

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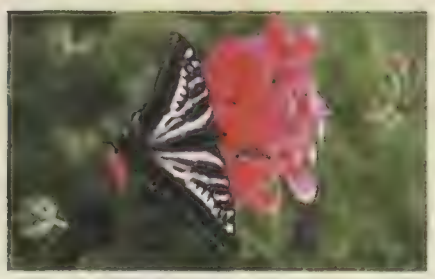

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Best-kept fishing secrets.

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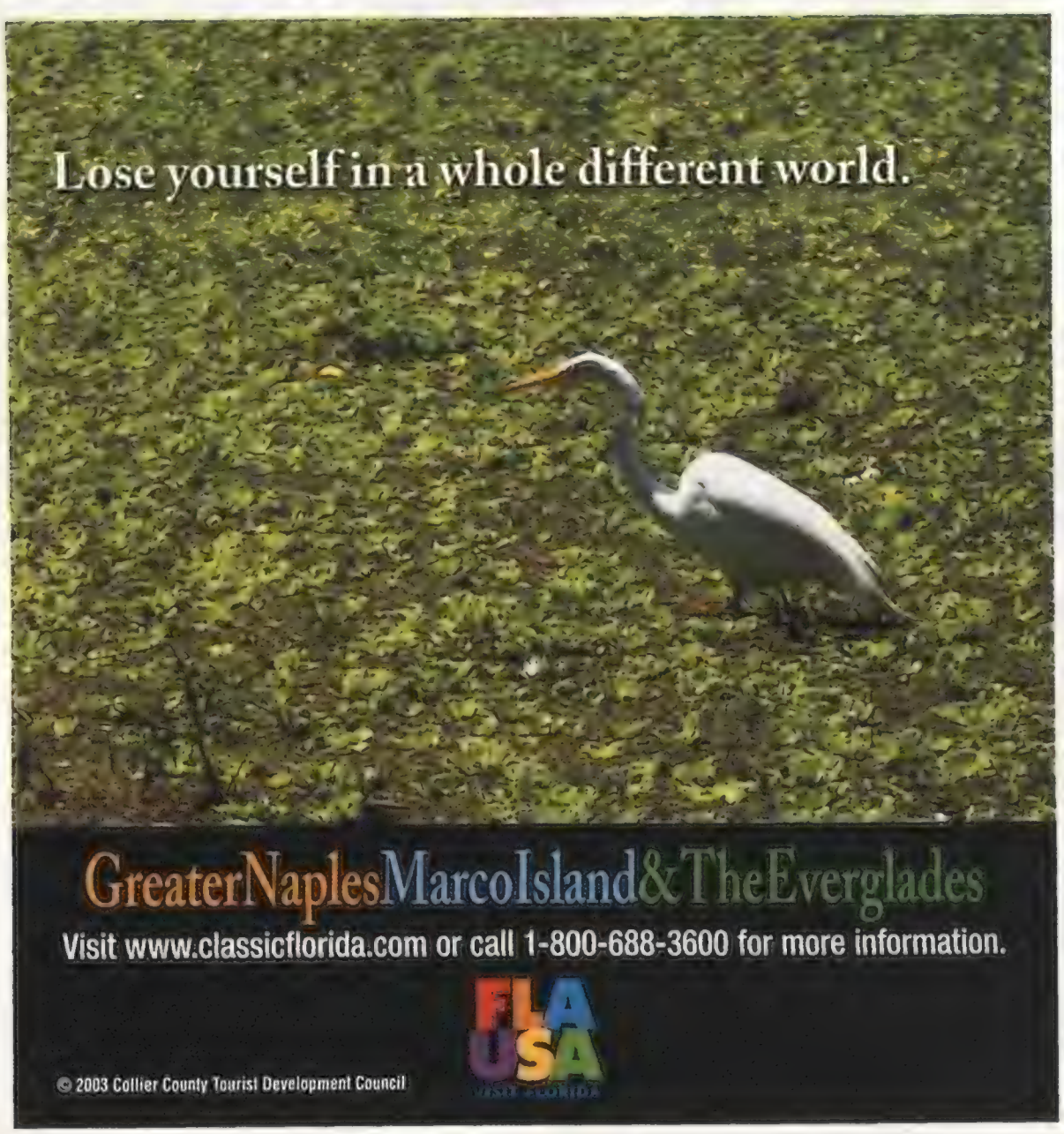
2. **Dead Lake**—Despite its name, this beautiful 6,700-acre lake is very much alive with bluegill and shellcracker fishing in the spring.
3. **Lake Sampson**—242 acres that provide good spinner bait fishing in the shallow waters around the cypress.
4. **Rodman Reservoir**—A premier largemouth bass fishery covering 9,500 acres.
5. **Lake Crescent**—A tributary of the St. Johns River, this 15,960-acre lake has good largemouth bass fishing.
6. **Lake Rousseau**—A 3,657-acre section of the Withlacoochee River replete with bluegill, redear sunfish, catfish, black crappie and largemouth bass.
7. **Lake Yale**—This 4,042-acre lake northwest of Eustis features small bass, bluegill, redear sunfish and black crappie.
8. **Starke Lake**—225-acre Starke is one of the most angler-friendly lakes in the area, with abundant largemouth bass.
9. **Moon Lake**—This 100-acre lake provides good largemouth bass and bluegill fishing.
10. **Edward Medard Reservoir**—A 770-acre reclaimed phosphate mine teeming with sunshine bass and channel catfish.
11. **Oscar Scherer State Park**—This state park offers canoe access to South Creek, where largemouth bass lurk upstream, and snook, redfish and trout swim downstream.
12. **Farm 13/Stick Marsh**—There are no harvest regulations on largemouth bass at this 6,500-acre impoundment. Also: bluegill, redear sunfish, black crappie and catfish.
13. **Lake Blue Cypress**—Scenic, 6,555-acre Blue Cypress has a good population of largemouth bass, bluegill, redear sunfish, black crappie and catfish.
14. **Lakes Park**—Fish for largemouth bass, bluegill and catfish at this 150-acre man-made lake.
15. **Lake Osborne**—Largemouth bass, sunshine bass, black crappie, bluegill, redear sunfish, catfish, and Mayan cichlids swim in this 356-acre body of water.
16. **Metropolitan Miami Canals**—The man-made canals of coastal southeast Florida provide excellent angling for a variety of sportfishes, including largemouth bass, snook, butterfly peacock and tarpon.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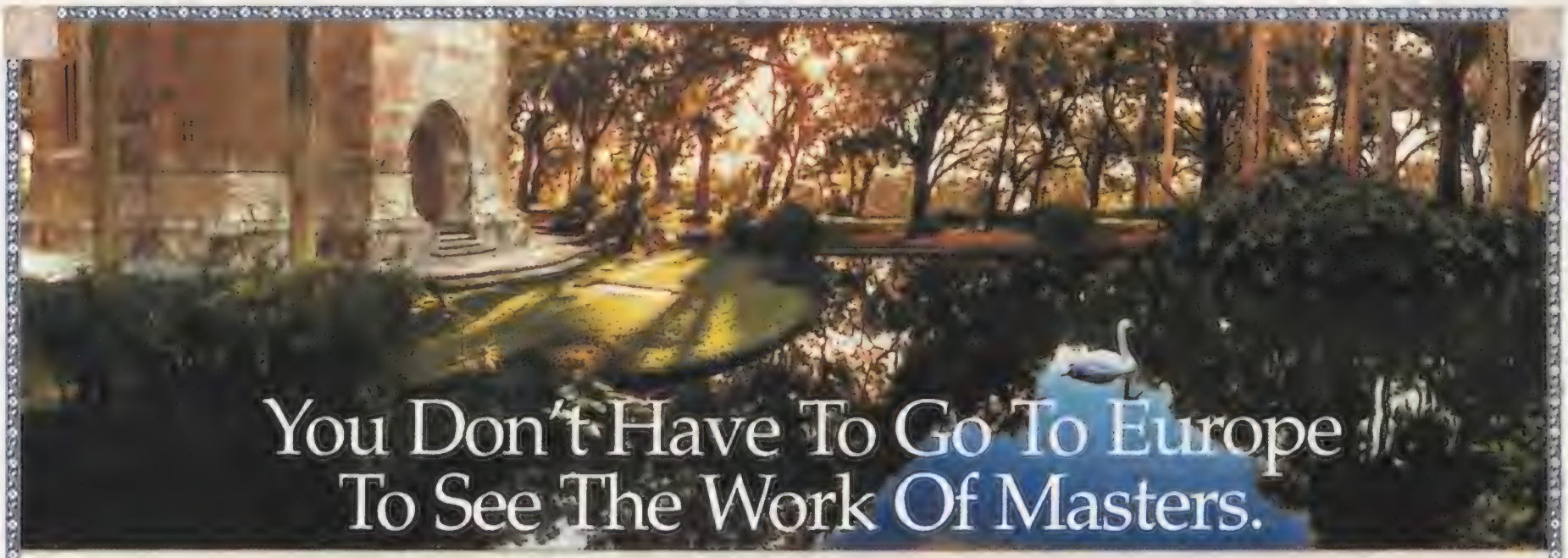

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St. Augustine Lighthouse

Lighthouses tell their own tales of lost ships, raging wars and marauding pirates. Florida's sentinels number more than 30 along 2,000 miles of coastline. Many are still active, with guided tours and museums to fill in the details of their colorful pasts.

Located at the entrance to the St. Mary's River near Fernandina Beach, the active 58-ft. **Amelia Island Lighthouse** 1 (800-226-3542)—closed to the public—is best seen from outside the entrance to Fort Clinch State Park. This may be the only lighthouse to serve in two states. It was originally built in Cumberland Island, Georgia in 1820, then dismantled and moved to its present location in 1839.

Florida's first lighthouse is the black and white spiral-banded **St. Augustine Lighthouse** 2 (904-829-0745; www.staugustinelighthouse.com), a 167-ft. tower with 219 steps that give visitors access to an outstanding view. This active lighthouse was built in 1871, replacing an earlier structure. The keeper's quarters house a museum, theater and bookstore.

FLORIDA STATE PARKS

Port Boca Grande Lighthouse at Gasparilla Island

At 175 feet, the red-washed brick **Ponce de Leon Inlet Lighthouse** 3 (386-761-1821; www.ponceinlet.org) south of Daytona Beach, the second-tallest in the country and the tallest lighthouse open to the public, was the inspiration for Stephen Crane's short story, *The Open Boat*. A National Historic Landmark, this restored active lighthouse has three keeper's dwellings and the Lens Exhibit Building, featuring the first-order Fresnel lens from the Cape Canaveral Lighthouse.

One of the nation's most highly restricted lighthouses because of its location in NASA's security zone, the black and white striped **Cape Canaveral Lighthouse** 4 (321-452-2121) was originally built in 1848, rebuilt in 1868, and moved to its current site in 1894. The 145-ft. tower is not open to the public, but it can be seen on the bus tour of the Kennedy Space Center. NASA occasionally grants special permission for public tours of the Canaveral lighthouse.

Although it is not a lighthouse, the **Gilbert's Bar Station** near Stuart 5 (772-225-1875) is worth a stop. Built in 1876, it is the oldest building on Florida's Treasure Coast and the only fully restored House of Refuge in Florida. The House is a museum displaying historical maritime artifacts, personal items and furnishings belonging to the House's "Keeper" and his family, and a model ship collection.

Active lighthouse Inactive lighthouse

FLORIDA STATE PARKS

Cape Florida Lighthouse, Key Biscayne

VISIT FLORIDA

Hillsboro Inlet Lighthouse, Pompano Beach

VISIT FLORIDA

Florida Keys reef light

The restored red **Jupiter Inlet Lighthouse** 6 (561-747-8380), off US One in Jupiter, was designed by George Meade, who later became a famous Civil War general. Overcoming obstacles caused by the Third Seminole War, the Civil War, a major hurricane, and the elements, the 105-ft. tower works today and has a museum and guided tours. In Pompano Beach, the iron skeletal **Hillsboro Inlet Lighthouse** 7 (954-942-2102) guards the northern limit of the Florida Reef. The 20-second flash through its original second-order Fresnel lens can be seen 25 miles out to sea. While not open to the public, this lighthouse can be seen from the A1A drawbridge over Hillsboro Inlet.

Located in the Bill Baggs Cape Florida State Park on Key Biscayne in Miami, the 95-ft. **Cape Florida Lighthouse** 8 (305-361-5811) is the county's oldest structure, and—like many other venerable Florida lighthouses—overcame struggles with the Seminoles, the Civil War, and hurricanes. There are ranger-guided tours of the restored working lighthouse and keeper's quarters. On a clear day, visitors can spot the cast iron-pile **Fowey Rocks Lighthouse** 9 in Biscayne Bay. While not open to the public, this active lighthouse is located in the mostly-underwater Biscayne National Park. It's one of six iron-pile lighthouses known as the **Florida Keys Reef Lights,** which stand guard in waters off the Florida Keys between Miami and Key West. This type of iron construction—said to have influenced Alexandre Gustave Eiffel in the construction of his famous Parisian tower—originated in England in the 1830s. The other reef lights—**Carysfort Reef** 10, **Alligator Reef** 11, **Sombrero Key** 12, **American Shoal** 13, and **Sand Key** 14—are accessible by boat and not currently open to the public. Their rich histories, however, have led to creation of a foundation that aims to establish a regional lighthouse museum and promote their preservation.

In Key West, the top of the 86-ft. white-washed brick **Key West Lighthouse** 15 (305-294-0012) provides a panoramic view of this colorful island. There's also a restored keeper's dwelling with a museum and displays of several Fresnel lenses. Seventy miles west of Key West, **Dry Tortugas National Park** 16—accessible only by boat or seaplane—is home to Fort Jefferson and some historic lighthouses. The 1876 Tortugas Harbor light and the foundation of the

Florida Scenic Highways

Scenic and Historic A1A
Approximately 52 miles along SR A1A from the Duval/St. Johns County line to the St. Johns/Flagler County line.

A1A River & Sea Trail Scenic Highway
Approximately 12 miles along SR A1A from the southern boundary of the town of Marineland to the northern boundary of Beverly Beach.

A1A Ocean Shore Scenic Highway
About 7 miles along SR A1A in Flagler Beach and Beverly Beach.

Indian River Lagoon Scenic Highway
Approximately 166 miles traveling north from CR 510 (the Wabasso Causeway) on SR A1A, west along SR 528 to US One, north on US One to Titusville, northeast on CR 402 to the Canaveral National Seashore, backtracking to SR 528 and south on US One to the Wabasso Causeway.

Florida Keys Scenic Highway
Approximately 106 miles along US One and SR A1A from the southernmost point in Key West to Mile Marker 106.5.

Bradenton Beach Scenic Highway
Approximately 2.8 miles along SR 89 from Longboat Pass Bridge to Bradenton Beach's northern city limit.

Pensacola Scenic Bluffs Highway
Approximately 11 miles along US 90 from the Bayou Texar Bridge to the Highway 90 Bridge over Escambia River.

See page 39 for more information on Florida Scenic Highways.

e days of the blue uniformed lighthouse keeper—checking his oil supply, slowly climbing the tower
clean the lens—have passed forever, yet his lighthouse still remains.

DISCOVER

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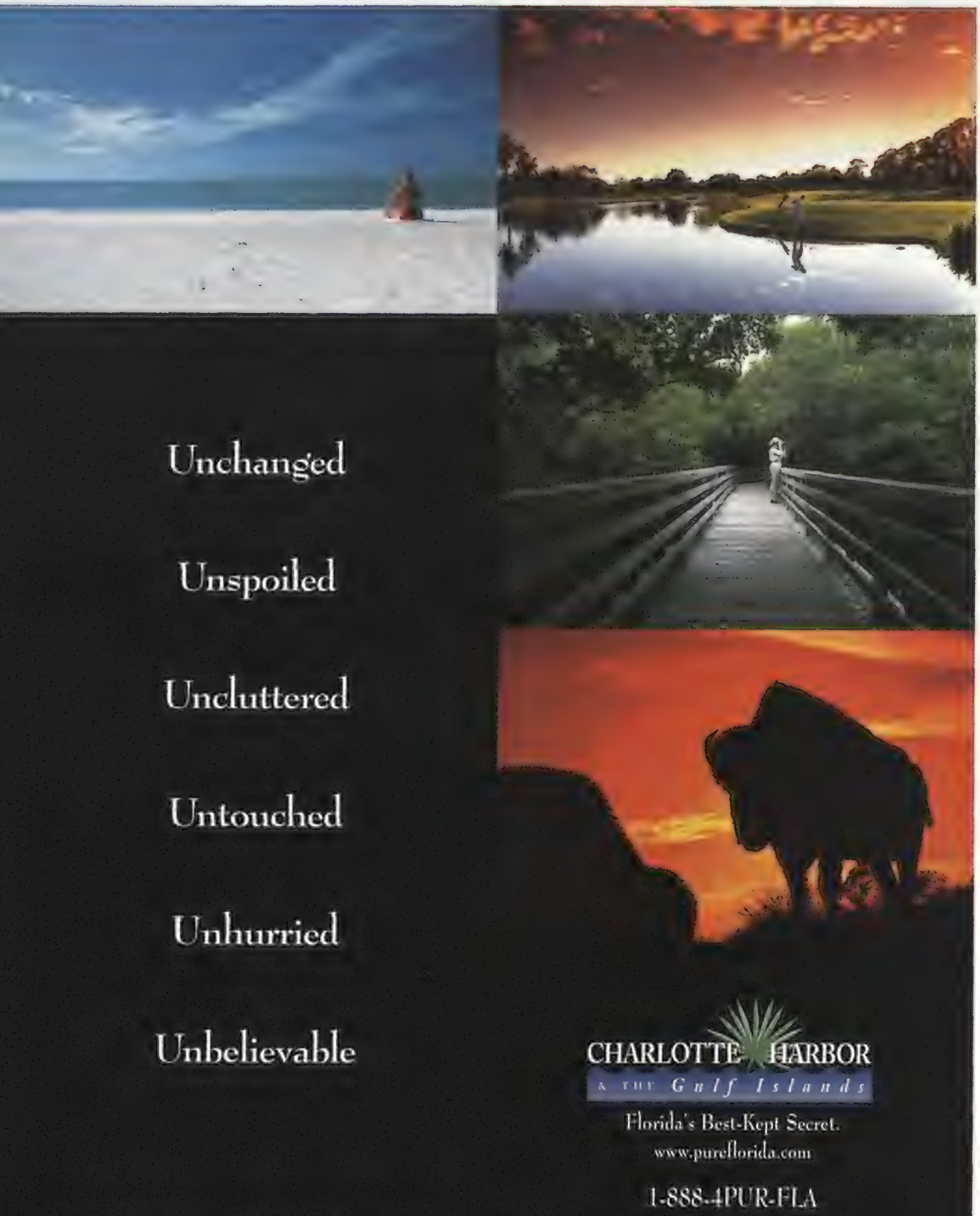
Tampa Bay History Center—Take a peek behind the scenes of a regional history museum. Learn about collecting, preserving, interpreting and exhibiting artifacts. FREE Admission! 225 S. Franklin St., Tampa. (813) 228-0097; fax (813) 223-7021. www.tampabayhistorycenter.org

1826 **Dry Tortugas Lighthouse** tower are at Fort Jefferson on Garden Key. On Loggerhead Key, the 157-foot **Loggerhead Key Lighthouse** marks the entrance to the Gulf of Mexico, warning mariners away from the Dry Tortugas.

On Florida's West Coast, lighthouses provide navigational aid to vessels in the Gulf of Mexico.

In Boca Grande, the iron-pile **Boca Grande Entrance Rear Range Lighthouse** 17 was built in 1927 to assist large ships coming into Port Charlotte's harbor. The **Port Boca Grande Lighthouse** 18 (941-964-0060) at the southernmost tip of Gasparilla Island is a house-style lighthouse with a museum, both accessible through Gasparilla Island State Park. At Anclote Key Preserve State Park (727-469-5942), the 96-ft. **Anclote Key Lighthouse** 19, a skeletal tower, is awaiting restoration.

Southwest of Gainesville, the **Cedar Keys Lighthouse** 20, a 33-ft. house-style structure with a white lantern, is located on Seahorse Key within the Cedar Keys National Wildlife Refuge (352-493-0238). Once used as a military prison during the Civil War, this lighthouse is no longer active but serves as a center for marine research for the University of Florida. The public can visit during open houses in July and October.



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The **St. Marks Lighthouse** 21 (850-925-6121), in the St. Marks National Wildlife Refuge south of Tallahassee, is an active 85-ft. structure surrounded by 65,000 acres of pristine wilderness. Although the tower is not open, visitors to the refuge can walk to the site and grounds.

Want to know more?

For more information on Florida lighthouses, contact the Florida Lighthouse Association (904-761-1821; www.floridalighthouses.org); the Florida Keys Reef Lights (305-852-7717; www.floridalighthouses.org/reeflights); and Florida's Maritime Heritage Trail (850-488-1484, www.flheritage.com/maritime).

The active **Pensacola Lighthouse** 22 (850-452-2311) not only illuminates its deepwater port—its light atop the black and white tower is visible 27 miles at sea—but also sheds light on the city's fascinating history. Its first-order lens was damaged by retreating Confederate troops, and its tower was rocked by the Great Charleston Earthquake of 1886. Located on the grounds of the Pensacola Naval Air Station, the renovated lighthouse is maintained by the Coast Guard and is open periodically for tours.

For more destination information, turn to page 38.

← CRANDON PARK

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The Everglades

A Tale in the Twist

The impact of the transformation of a river in the heart of central Florida reaches south to the Everglades

Matt Windsor

This is a story of what man has done, and will undo under the great Florida sky. It is about the Kissimmee River, a tributary of Lake Okeechobee that arises from a series of central Florida lakes rolling past strands of longleaf pine, palm trees, houses and grazing cattle. Propelled by hurricanes and heavy rainfall, the flood-prone Kissimmee River frustrated settlers with regularity. But it was the explosive growth of the surrounding metropolitan areas in the 1960s that caused matters to come to a head. After two decades of studies, legal wrangling, and controversy, the U.S. Army Corps of Engineers carved a canal through the heart of the river, cutting out the twists, making it deeper and straighter, and piling up the resulting muck on the banks, levee-style.

Man's newly created Kissimmee River was an engineering marvel—it was finally contained, never to overflow again. The waterway once known by the Miccosukee and Seminole tribes of Florida as the "River of Long Water" is now referred to as the "The Big Ditch." The original 104-mile watercourse was trimmed almost in half to a carefully regulated 56-mile stretch with banks 328 feet apart, a 30-foot bottom, and a series of six locks that move water through at regular intervals. With these changes the surrounding miles of wetlands dried up, cattle moved in to graze while the alligators, wading birds and bald eagles that once flourished, disappeared.

As soon as the environmental damage the change had caused became apparent, serious efforts began to restore the Kissimmee River to its original condition. In 1992, Congress approved a joint state/federal restoration plan that aims to restore the river's meandering curves, remove most of the locks and revitalize the wetlands. The $578 million Kissimmee River restoration project, which is due for completion in 2012, will refill 22 miles of canal producing anew 40 square miles of river and wetlands. It will raise the water level in Lake Kissimmee and other surrounding lakes by 1.5 feet. To date, 14 miles of the river have been restored, and native wildlife, *continued on page 18*

SFWMD

The many incarnations of the Kissimmee River, left to right: river in 1961; the canal; current restoration underway

Loxahatchee NWR

SFWMD

Kissimmee River fishing near Lake Okeechobee

MARVIN COOK

Swamp Walk at Big Cypress NP

THE NATURE CONSERVANCY

Buggy tour, Disney Wilderness Preserve

Where to start. To experience the Kissimmee River transformation and its impact on preserving the Kissimmee/Okeechobee/Everglades ecosystem, begin at the state park that is the source of the river.

1. **Lake Kissimmee State Park** (863-696-1112; www.floridastateparks.org). Here visitors can see the birthplace of the river, hike nature trails and catch a glimpse of white-tailed deer, fox squirrels, bald eagles and sandhill cranes, and enjoy the botanical wonders of butterfly orchids, cutthroat grass, fetterbush or gallberry. For those who want to explore a stretch of the Kissimmee River by canoe or kayak, access is available at the park (bring your own canoe or kayak; no rentals are available).

2. **Kissimmee Prairie Preserve State Park** (863-462-5360; www.floridastateparks.org). Hike, bike or horseback ride over a seven-mile trail to the river, or camp in a newly-opened area. Endangered species such as the Snail Kite, Florida Grasshopper Sparrow, Crested Caracara and Florida Sandhill Crane make their homes in this 54,000-acre preserve.

The Everglades Trail. Rather than a linear trail, the newly-inaugurated and growing educational Everglades Trail is a collection of key sites along a route that follows the watershed through the Kissimmee River to the Florida Everglades. Each site provides wayside exhibits that interpret cultural and natural features and ecosystem restoration efforts. Brochures are available, and look for a CD featuring stories, sounds, and musician Jimmy Buffett, to put this fascinating picture in perspective for visitors. For details, visit www.evergladestrail.com.

3. **Disney Wilderness Preserve** (407-935-0002; nature.org). Bordered by one of the last remaining undeveloped lakes in central Florida, the Nature Conservancy's Disney Wilderness Preserve is home to hundreds of wildlife species that can be seen via hiking trails, off-road buggy tours and guided walks.

4. **Shingle Creek Swamp** (561-686-8800; www.sfwmd.gov). Managed by the South Florida Water Management District, this area has nature-based recreation in the headwaters of the Kissimmee/Okeechobee/Everglades eco-system, with trails and primitive camping.

5. **Prairie Lakes Unit, Three Lakes Wildlife Management Area** (www.sfwmd.gov). Nestled between Lakes Jackson, Kissimmee, and Marian, this former ranch has prairie, marsh and pine flatwoods. Two loops of the Florida National Scenic Trail traverse the area and connect to an additional 26 miles of trails.

6. **DuPuis Reserve** (561-924-5310; sfwmd.gov). This reserve features an environmental education center, overnight camping and hiking and equestrian trails developed by the Florida Trail Association.

7. **Hickory Hammock Management Area** (800-250-4200; sfwmd.gov). Managed as a wildlife management area by the South Florida Water Management District (SFWMD) and the Florida Fish and Wildlife Conservation Commission (FWC), this area includes a segment of the Florida National Scenic Trail. Hunting, fishing, bicycling and primitive camping are available.

8. **A.R.M. Loxahatchee National Wildlife Refuge** (561-734-8303; loxahatchee.fws.gov). This is the last northernmost portion of the Everglades, and home to the American alligator and the endangered Everglades snail kite. A boardwalk into the 400-acre cypress swamp gives visitors an up-close swamp experience without getting their feet wet.

9. **Florida Panther National Wildlife Refuge** (239-353-8442; floridapanther.fws.gov). Located in the upper segment of the Fakahatchee Strand of the Big Cypress Swamp, the refuge protects endangered Florida panthers. It's also home to water birds, wading birds including wood storks and rare tropical orchids.

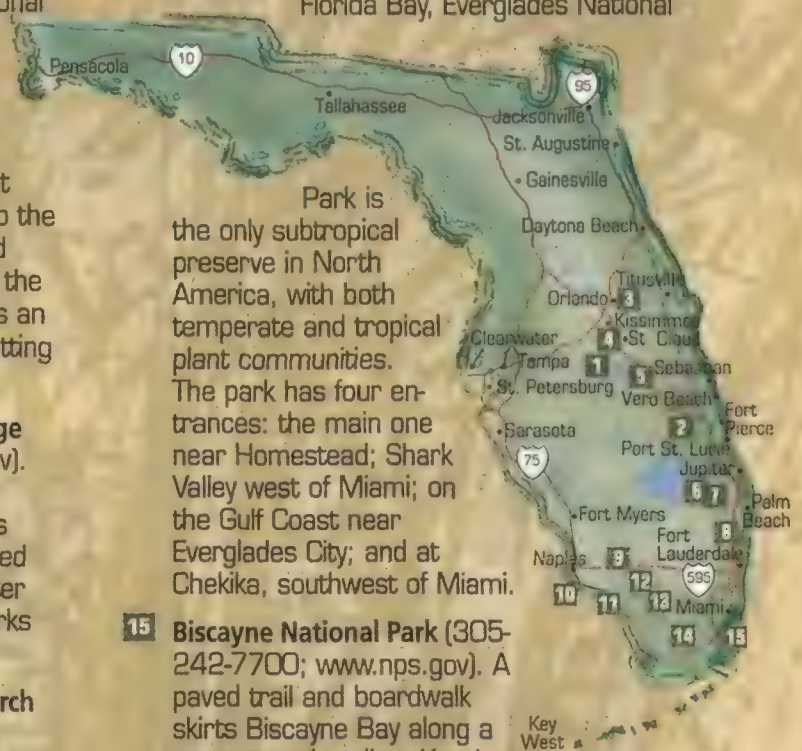
10. **Rookery Bay National Estuarine Research Reserve (Naples)** (239-417-6315; www.rookerybay.org). Located at the northern end of the Ten Thousand Islands on the gulf coast, this represents one of the few remaining undisturbed mangrove estuaries in North America. Within its 110,000 acres of pristine mangrove forest, uplands and protected waters is abundant wildlife—including 150 species of birds and many threatened and endangered animals.

11. **Collier-Seminole State Park** (239-394-3397; www.floridastateparks.org). Home to a 4,760-acre wilderness preserve located in the mangrove swamp that shows how the area looked before the arrival of European explorers, the park features vegetation and wildlife that is typical of the Everglades.

12. **Fakahatchee Strand Preserve State Park** (239-695-4593; www.floridastateparks.org). Featured in Susan Orlean's book *The Orchid Thief* and the subsequent movie *Adaptation*, this park has one of the most remarkable concentrations and variety of orchids in North America. Its unusual wildlife includes some threatened or endangered species. The Florida panther, wood stork, Florida black bear, mangrove fox squirrel and the Everglades mink have all been documented within the preserve area.

13. **Big Cypress National Preserve** (941-695-4111; www.nps.gov). Vast expanses of cypress stands span this 729,000-acre preserve, set aside to protect the natural scenic, floral and faunal, and recreational values of the Big Cypress Watershed, critically important to the Everglades. The preserve includes 31 miles of the Florida Trail.

14. **Everglades National Park** (305-242-7700; www.nps.gov). Stretching across the southern tip of the Florida peninsula and most of Florida Bay, Everglades National Park is the only subtropical preserve in North America, with both temperate and tropical plant communities. The park has four entrances: the main one near Homestead; Shark Valley west of Miami; on the Gulf Coast near Everglades City; and at Chekika, southwest of Miami.



15. **Biscayne National Park** (305-242-7700; www.nps.gov). A paved trail and boardwalk skirts Biscayne Bay along a mangrove shoreline. Kayak and canoe trips start at the educational visitor center. Other activities: fishing, glass bottom boats, scuba diving and snorkeling.

Big Water Heritage Trail. This scenic auto route includes points of interest surrounding Lake Okeechobee. For a brochure, call the following chambers of commerce: Belle Glade, 561-996-2745; Clewiston, 863-983-7979; Glades County, 863-946-0440; Indiantown, 772-597-2184; Okeechobee, 863-763-6464; and Pahokee, 561-924-5579.

Seminole and Miccosukee Tours

Florida's Native American tribes have long been inhabitants of the Everglades. A new website, www.evergladesgateway.com, features tours on reservations located in the heart of the Everglades.

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Florida Scenic Highways
Tamiami Trail Scenic Highway—Approximately 50 miles from SR 951 to the Collier County line. For more information, see page 39.

The Florida Trail
Part of the Florida Trail runs through this area. Visit www.florida-trail.org or call 877-HIKE-FLA.

Greenways and Trails
Explore South and Central Florida's greenways and trails. Visit www.myflorida.com or call 877-822-5208.

continued from page 16

including largemouth bass and wading birds, have returned—not just to the river basin. "Birds don't just come to one area and stay there," says Lou Toth, chief scientist on the Kissimmee project at the South Florida Water Management District. "We're expecting regional benefits, including South Florida and the Everglades."

The Kissimmee River restoration, important enough in itself, is being watched by water experts around the world, especially those in South Florida, who hope its lessons will steer them straight on an even bigger undertaking: the $8 billion restoration of the Florida Everglades.

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FLORIDA STATE PARKS

Cow camp, Lake Kissimmee State Park

Florida Cracker Trail. Central Florida was once (and to an extent still is) prime ranching country; there was plenty of grassland, cattle and rough-hewn hands to wrangle them. The cows have been here for centuries, descendants of the original bovines brought over by the Spanish. The men hunted these free, open-range cattle in the scrub and swamps, and drove them with long cracking whips—hence the name Florida Cracker. The scenic Florida Cracker Trail that commemorates Florida's cowboys runs across the state from Fort Pierce to Bradenton, on the path of cattle drives from central Florida rangelands to processing plants and ports on Florida's east and west coasts. The trail runs past historic small towns such as Lake Wales, Lorida, Zolfo Springs and through miles of wide-open country where cattle still graze in the distance among palm trees and strands of longleaf pine.

DISCOVER

Vero Beach Museum of Art—Accredited art museum offering changing exhibitions, gallery tours, sculpture garden, museum store, performances, youth and family events, and art education. 3001 Riverside Park Dr., Vero Beach, 32963. (772) 231-0707; fax (772) 231-0938. info@vbmuseum.org; www.vbmuseum.org

City of Gainesville—The Thomas Center is a beautifully restored Mediterranean Revival-style hotel that is listed in the National Register of Historic Places. It contains 1920's period rooms, local history exhibits, banquet rooms, performance space and meeting rooms. It is surrounded by the lovely Thomas Center Gardens. 302 NE Sixth Ave., Gainesville. (352) 334-5064; fax (352) 334-2144. www.gvlculturalaffairs.org

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The Great Florida Birding Trail: West Section

The construction of the Great Florida Birding Trail has reached the mid-way point, and it's already wowing birders from around the world.

Matt Windsor

Purple Gallinule

Two down, two to go. That's the status of the Great Florida Birding Trail, the ambitious state-run project that aims to show visitors and residents alike the vast variety and abundance of Florida bird life. The East Section opened two years ago, with sites from Fernandina Beach to Lakeland and has proved to be a great success with both serious and casual birders. Last fall, the West Section premiered at its eastern gateway, Paynes Prairie Preserve State Park just south of the University of Florida campus in Gainesville. In Fall 2003, if everything from budgets to site inspections goes according to plan, the Panhandle Florida section will open. By the current timetable, the final section, South Florida, will open in fall 2005.

SFWMD

Ibis

"The opening of the West Section was wonderfully received," says Birding Trail Coordinator Julie Brashears. Birders around the state and across the country are now familiar with the quality of the Trail's first sites in eastern Florida, she says, and they have been eagerly awaiting this second installment.

An extensive guide to the West Section is available online at www.floridabirdingtrail.com, or by phone at 850-922-0664. The East Section guide has already been a big hit, and is on its second reprinting. Interest in the West Section version has been similarly encouraging. Excitement about the trail hasn't been restricted to hard-core bird lovers, either. "It ranges from people planning their entire trips around birding, all the way to folks who are already in Florida, and rearrange or extend their plans to travel to these sites," Brashears says. "The first response we got for the West guide was from a

SFWMD

Limpkin

ST. PETERSBURG/CLEARWATER CVB

Reddish Egret

SFWMD

Pileated Woodpecker

family from Colorado camping in O'Leno State Park."

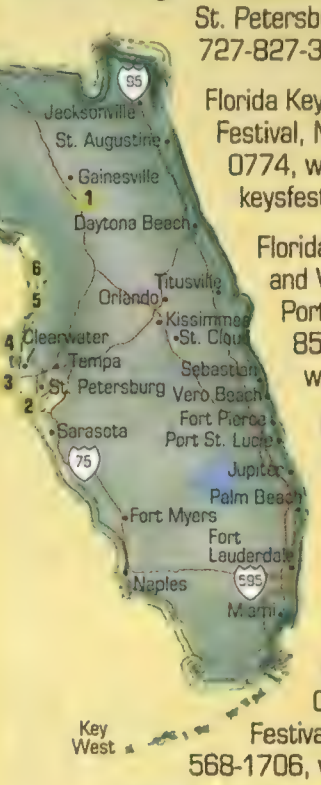
Even though the sections are divided in a fairly arbitrary fashion, they each still have plenty of unique locations, and some region-specific species. "One thing that I like to emphasize is the Mangrove Cuckoo, which doesn't occur in the East Section," she says. "There are also good concentrations of Red-cockaded Woodpeckers," in the West Section.

What is the best way to plan a Birding Trail itinerary? "It really depends on what people are looking for," says Brashears. "Some birders want a lot of different species in a short period. A good place for people to start is always those gateways; they're guaranteed good birding." At **Paynes Prairie Preserve State Park** 1, there are especially fine concentrations of wetland birds, wintering songbirds, and sparrow fields. "People can find what they want," she says. "It is essentially eye-candy birding."

A Sample Trip

The same is true of the western gateway, **Fort De Soto Park** 2, which is within the Reddish Egret Cluster of the trail just south of St. Pete Beach. Those birds, along with Roseate Spoonbills, White-rumped Sandpipers, Snowy Plovers and more can be found in the park's sheltered mudflats. This site is a good place to search for rarities, such as the Heerman's Gull, which showed up in the winter of 2002. Head back through St. Petersburg, then strike north on Alt. 19 to reach **Boca Ciega Millennium Park** 3, a new county park with a good vantage point for watching the tidal shallows of Boca Ciega Bay. White Pelicans, Wood Storks, and 140 other species have been spotted here. From Boca Ciega, follow the Gulf Coast north to **Hammock Park** 4, in the Oystercatcher Cluster, where Tricolored Herons and Ospreys congregate in the spring and summer, and the Fern Trail is crowded with species during the fall migration. Continue up US 19 past New Port Richey to the **Weekiwachee Preserve** 5, where five miles of trails pass through habitats of Least Terns and Winter Sparrows. Head north once again on US 19 to the Homosassa Tract of the **Withlacoochee State Forest** 6 and the Rook Trail, a 3-mile loop on which hikers may see Wild Turkeys, Eastern Meadowlarks, Blue-headed Vireos, and Northern Bobwhites.

For more destination information, turn to page 38.



Alachua's Savannah. A sinkhole, or sink, forms when rainwater trickles through the soil to underlying bedrock, eroding it and eventually causing it to collapse in on itself. Paynes Prairie, formed from several smaller sinks, is one of the largest there is, at 21,000 acres. Paynes Prairie Preserve State Park is a birder's dream, with 271 species drawn by widely varying terrain, including pine flatwoods, hardwood hammock and basin marsh. It is also the major wintering ground of the eastern population of Sandhill Cranes. But birds are not the only sought-after residents of the preserve. Among the terrestrial animals found here are buffalo (American bison), which were reintroduced from Oklahoma in the 1970s as part of an effort to restore the preserve to pre-European settler conditions. There is also a wild herd of Spanish horses that can often be seen from the central observation tower, and a number of alligators inhabit the preserve's lakes.

What's Going On

April
Welcome Back Songbirds Festival, Brooksville, 352-754-6722 or 850-487-0516, www.floridaconservation.org/festivals

Welcome Back Songbirds and Wakulla Wildlife Festival, Wakulla Springs, 850-224-5950, www.floridastateparks.org

Welcome Back Songbirds Festival, Titusville, 321-861-0667 or 352-955-6588, www.nbbd.com/godo/minwr or www.floridaconservation.org/festivals

May
Florida's First Coast Nature Festival, St. Augustine, 800-653-2489, www.Getaway4Nature.com

October
Florida Birding Festival and Nature Expo, St. Petersburg/Clearwater, 727-827-3326, www.pcef.org

Florida Keys Birding and Wildlife Festival, Marathon, 305-872-0774, www.hawkwatch.org/keysfest

Florida Panhandle Birding and Wildflower Festival, Port St. Joe, 850-229-9464, www.birdfestival.org

November
Space Coast Birding and Wildlife Festival, Titusville, 321-268-5224 or 321-268-5000, www.nbbd.com/fly

February
Orlando Wetlands Park Festival, Christmas, 407-568-1706, www.cityoforlando.net, go to Parks, click on Wetlands

March
Pelican Island Wildlife Festival, Sebastian, 772-562-3909, ext 258, www.nbbd.com/npr/pips.

Farewell Feathered Friends Shorebird Festival, Naples, 561-265-5132, www.floridaconservation.org/festivals

April
Big "O" Birding Festival, Moore Haven, 863-946-0300, www.gladescountyedc.com

Foot, Pedal, Paddle

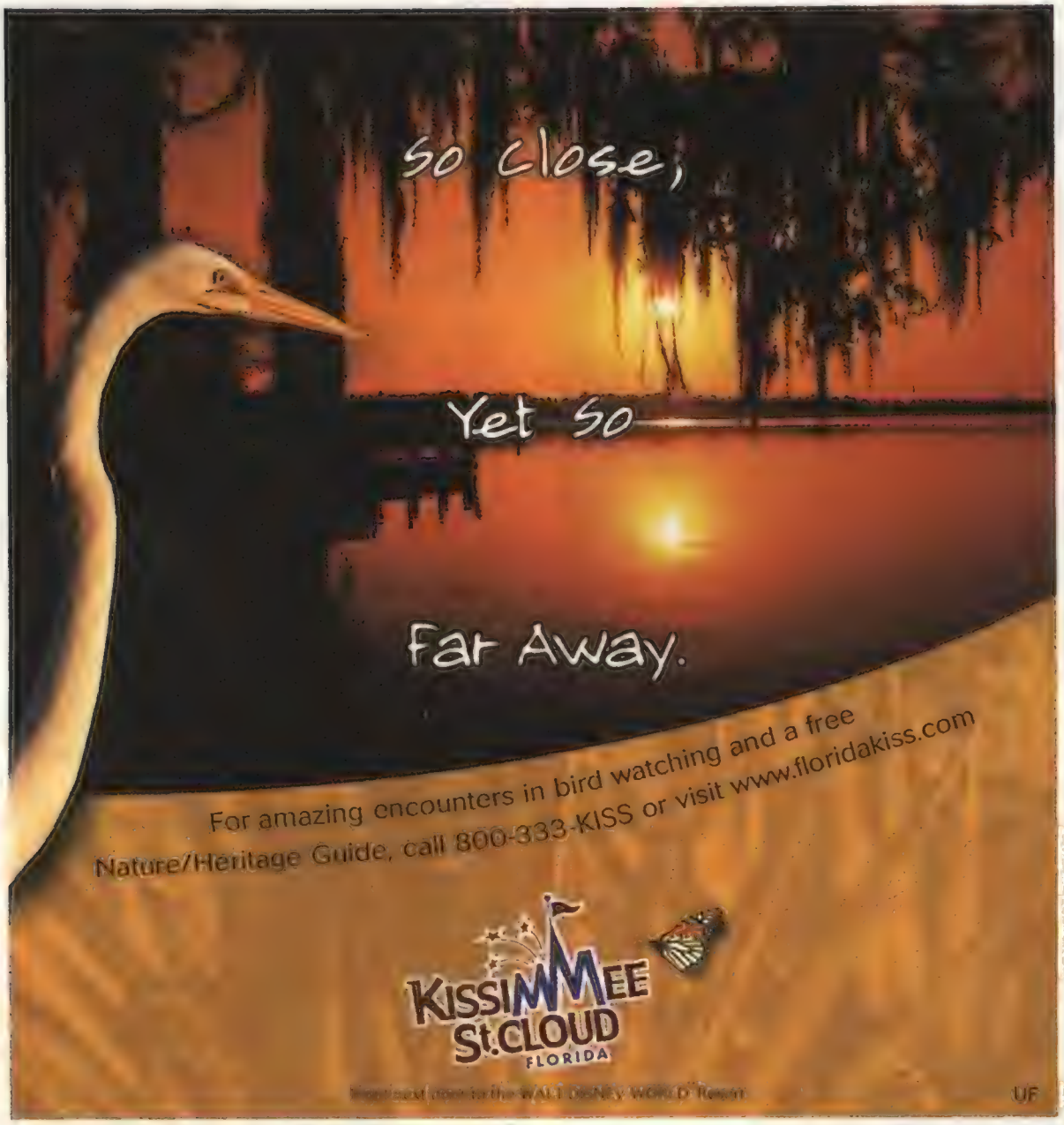
Old Florida Heritage Highway
A 48-mile network of scenic roads that includes about 12 miles along US 441 from Williston Rd. (SR 331) to the Marion County line, and 36 miles of Alachua County roads 234, 18 (Waccahoota Rd.), 225, 325, 346, 2082 and SE 185 Ave. See page 39 for information on Florida Scenic Highways.

The Florida Trail
Part of the Florida Trail runs through Florida's west coast. Visit www.florida-trail.org or call 877-HIKE-FLA.

Greenways and Trails
Explore west Florida's greenways and trails. Visit www.myflorida.com or call 877-822-5208.

SANDRA FRIEND/FTA

Hillsborough River State Park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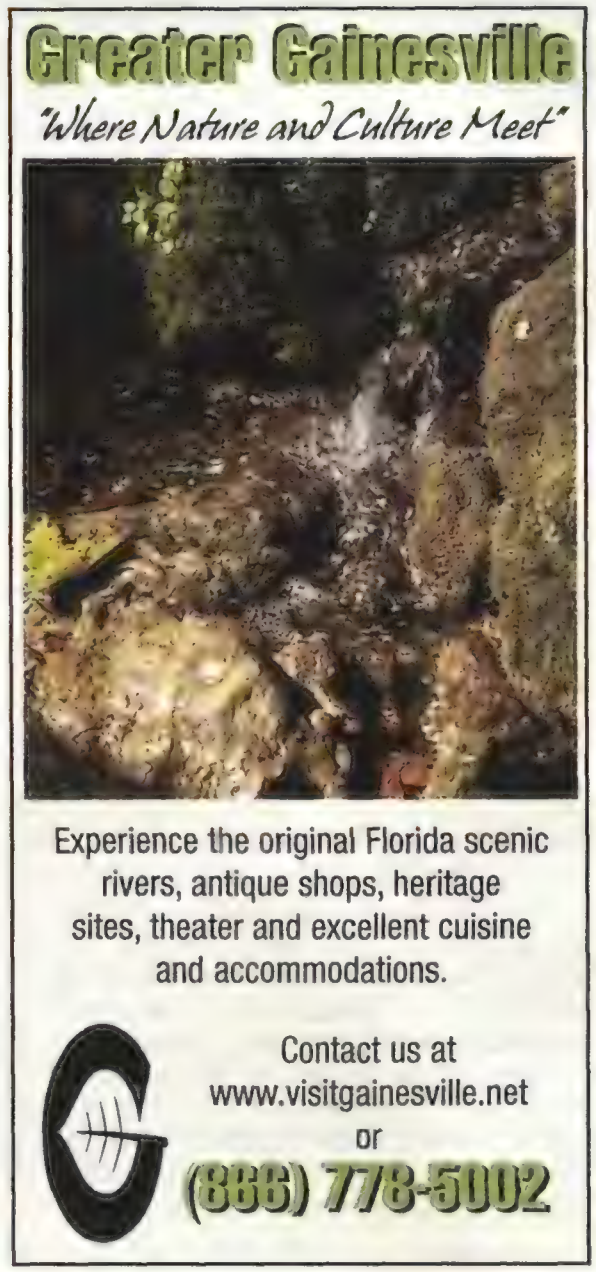
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Historical museums
tell Florida's story

In many ways, Florida's story is the nation's story—a past that includes struggles with indigenous populations, European conquerers, the hardships of the Civil War, and growing pains associated with the push toward statehood and the burdens of continuous growth and expansion.

But in other fascinating ways, Florida's history is its own, as visitors discover when they spend time at one of the state's many historical museums.

Florida's past is well-documented at venues like the **Ah-Tah-Thi-Ki Museum** 17 (863-901-1113), located on the Big Cypress Reservation west of Fort Lauderdale, where artifacts illustrate how the Seminoles thrived in Florida's swamps and the Everglades.

While the native Americans were adept at navigating Florida's twisting inland waterways and tempestuous tropical landscapes, it took a while for early engineers to figure out how to drain and re-direct the swamp waters that covered most of southern Florida. The state's colonial and antebellum population was therefore confined to the upper third of the peninsula, and the vestiges of history are everywhere.

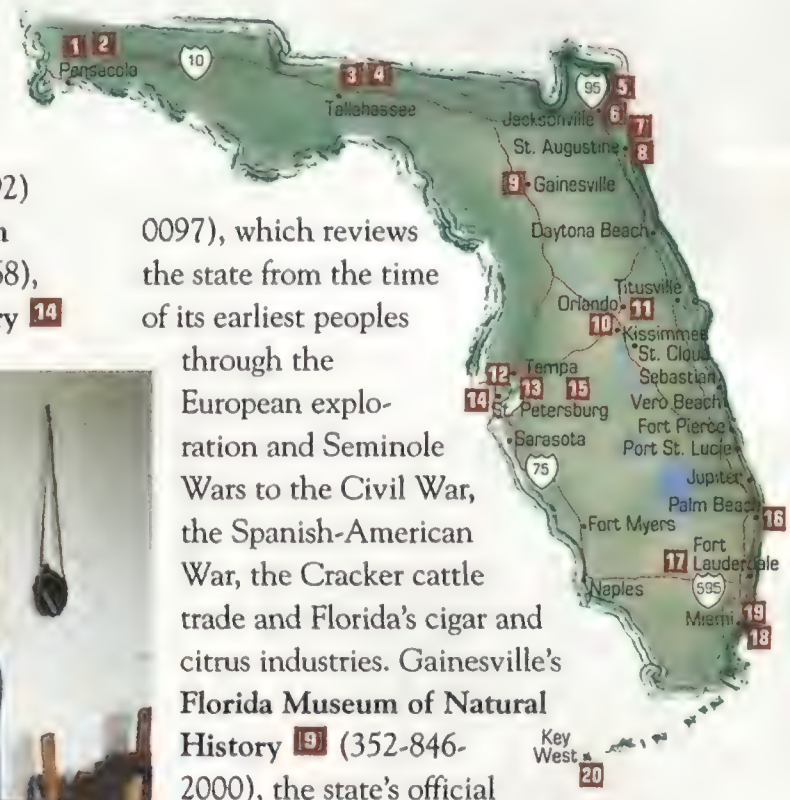
At the **Amelia Island Museum of History** 5 (904-261-7378) in northeast Florida, visitors learn how peaceful Timucuan Indian life was forever disrupted by the arrival of French, Spanish and eventually English settlers. A living history museum at **St. Augustine's Spanish Quarter Village** 8 (904-825-6830) explores the world of early colonists in a garrison town.

Regional history comes to life at dozens of locales around the state, including the **Museum of Science and History** 6 (904-396-6674) in Jacksonville, the **Historic Pensacola Village/TT Wentworth State Museum** 1 (850-595-5985) in Pensacola, the **Polk County Historical Museum** 15 (863-534-4386), the **Orange County Regional History Center** 11 (407-836-8500) in Orlando, the **Historical Museum of Southern Florida** 19 (305-375-1492) in Miami, the **Safety Harbor Museum of Regional History** 12 (727-726-1668), the **St. Petersburg Museum of History** 14 (727-894-1052) and the **Key West Museum of Art and History** 20 (305-295-6616) at the Custom House. Other venues, including the **John G. Riley Center/Museum of African American History** 3 (850-681-7881) in Tallahassee, the **Jewish Museum of Florida** 18 (305-672-5044) in Miami Beach and the **Holocaust Memorial Center Museum of Central Florida** 10 (407-628-0555), focus on Florida's cultural history.

FLORIDA STATE PARKS

Civil War reenactors

Take in all of Florida's history at the **Tampa Bay History Center** 13 (813-228-0097), which reviews the state from the time of its earliest peoples through the European exploration and Seminole Wars to the Civil War, the Spanish-American War, the Cracker cattle trade and Florida's cigar and citrus industries. Gainesville's **Florida Museum of Natural History** 9 (352-846-2000), the state's official natural history museum, is the largest natural history museum in the Southeast. Florida museums with Civil War exhibits include the **Museum of Florida History** 4 (850-245-6400) in Tallahassee, the **Civil War Soldiers Museum** 2 (850-469-1900) in Pensacola, and the **Museum of Southern History** 7 (904-388-3574) in Jacksonville. Looking at the whole state from a cultural angle, the **Museum of Florida History** (850-245-6400) in Tallahassee preserves, exhibits and interprets evidence of past and present cultures in Florida. The **Henry Morrison Flagler Museum** 16 (561-655-2833) in Palm Beach illustrates how oil magnate Flagler's railroads and luxury hotels established tourism and agriculture as the mainstays of Florida's economy.



A comprehensive listing of Florida's museums is online at www.flamuseums.org.

For more destination information, turn to page 38.

Florida's Civil War Battlefields, Reenactments and Native American Historic Sites on pages 26-28.

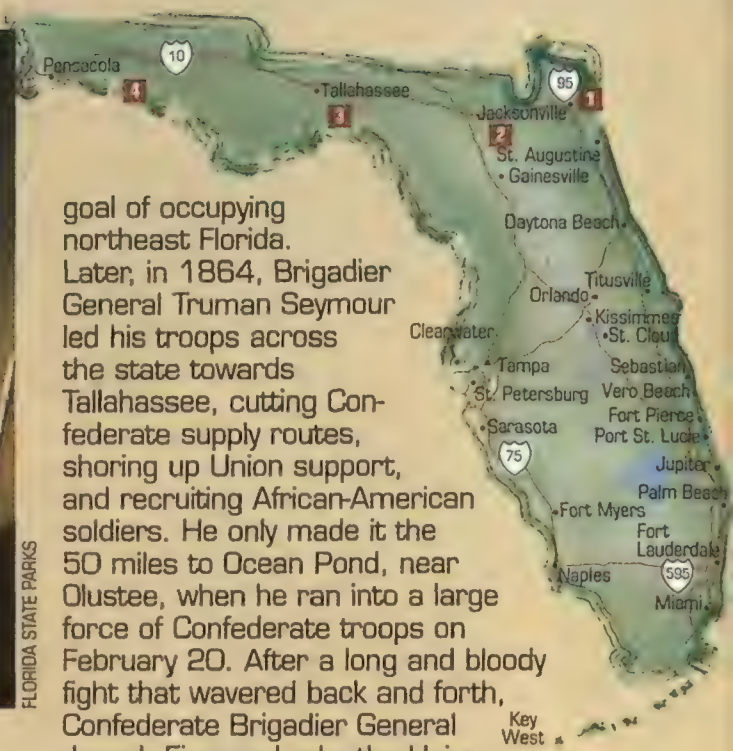
Historic Museum Villages. Another way to experience Florida's vibrant past is at a museum village, where historic buildings such as vintage post offices, schoolhouses, homes, churches and barns, are brought together in a historic tableau. Unlike the nationally designated historic landmark districts of Pensacola, Ybor City and St. Augustine—where structures stand as they have for years—Florida's museum villages have buildings that have been relocated from their original sites and grouped with other structures to collectively illustrate a historical setting. There are 18 such villages in Florida; call for information and hours of operation.

1. **Junior Museum of Bay County,** Panama City, 850-769-6128, www.jrmuseum.org
2. **Old Callaway School,** Callaway, 850-871-3855, www.cityofcallaway.com
3. **Panhandle Pioneer Settlement,** Blountstown, 850-674-8055, www.panhandlepioneersettlement.org
4. **Tallahassee Museum of History and Natural Science,** Tallahassee, 850-575-8684, www.tallahasseemuseum.org
5. **Forest Capital State Museum & Cracker Homestead,** Perry, 850-584-3227, www.dep.state.fl.us (go to "Find A Park")
6. **Pablo Historical Park,** Jacksonville Beach, 904-246-0093, www.jaxbeach.com/jacksonville_beach.htm
7. **Morningside Nature Center,** Gainesville, 352-334-2170, www.natureoperations.org
8. **Pioneer Settlement for the Creative Arts,** Barberville, 386-749-2959, www.volusia.com/barberville
9. **Fort Christmas Historical Park,** Christmas, 407-568-4149, www.nbbd.com/godo/FortChristmas
10. **Osceola County Pioneer Museum,** Kissimmee, 407-396-8644, www.floridakiss.com/f_attractions.html
11. **Pioneer Florida Museum,** Dade City, 352-567-0262, www.dadecity.com/museum
12. **Cracker Country** (Florida State Fairgrounds), Tampa, 813-621-7821, www.floridastatefair.com
13. **Heritage Village,** Largo, 727-582-2123, www.pinellascounty.org/Heritage
14. **Palmetto Heritage Park,** Palmetto, 941-723-4991, www.manateeclerk.com/ClerkServices/HisVill/palmetto.htm
15. **Manatee Village Historical Park,** Bradenton, 941-749-7165, www.manateeclerk.com
16. **Homeland Heritage Park,** Homeland, 863-534-3766, www.bartowchamber.com/homeland.htm
17. **Pioneer Park,** Zolfo Springs, 863-735-0119, www.old-engine.com/zolfo.htm
18. **Yesteryear Village** (South Florida Fairgrounds), West Palm Beach, 561-795-3110, www.southfloridafair.com

Carpenter, Fort Clinch State Park

FLORIDA STATE PARKS

Olustee Battlefield Reenactment



Florida's Civil War Battlefields. Florida's colorful Civil War history ranges from one corner of the state to the other.

Florida met the dawn of the Civil War conflicted and spoiling for a fight. It was the third state to secede from the original Union, and the conflict almost began here, when Confederate troops gathering in Pensacola antagonized U.S. Army troops holed up across Pensacola Bay at Fort Pickens.

Florida was a new state during the Civil War, and its population was small. Floridians clustered in the northern third of the peninsula and along the coasts, and did much more of their fighting in other states (sending more than their share to die on the fields of Gettysburg, for instance) than in their own. Nevertheless, Florida did play a part in this country's great war. One major battle was fought here, along with several minor engagements.

What to See

Most of Florida's top Civil War sites are grouped in a rough line across the upper end of the peninsula, running from Jacksonville to Pensacola. Confederate troops occupied **Fort Clinch** 1 (904-277-7274; www.floridastateparks.org), in Fernandina Beach north of Jacksonville through 1862, when Union troops arrived in force with the goal of occupying northeast Florida. Later, in 1864, Brigadier General Truman Seymour led his troops across the state towards Tallahassee, cutting Confederate supply routes, shoring up Union support, and recruiting African-American soldiers. He only made it the 50 miles to Ocean Pond, near Olustee, when he ran into a large force of Confederate troops on February 20. After a long and bloody fight that wavered back and forth, Confederate Brigadier General Joseph Finegan broke the Union line with the last of his reserves, whereupon General Seymour's men promptly retreated to Jacksonville once more and stayed put for the rest of the war. In the battle, 2,807 soldiers became casualties, by far the largest engagement in Florida. The battle is commemorated every year with a grand-scale reenactment at **Olustee Battlefield Historic State Park** 2 (386-758-0400; www.floridastateparks.org). Another expedition threatened Tallahassee the next year, when Union troops moving north from the Panhandle Gulf coast were stopped in a small battle at the Natural Bridge over the **St. Marks River** 3 (850-922-6007;

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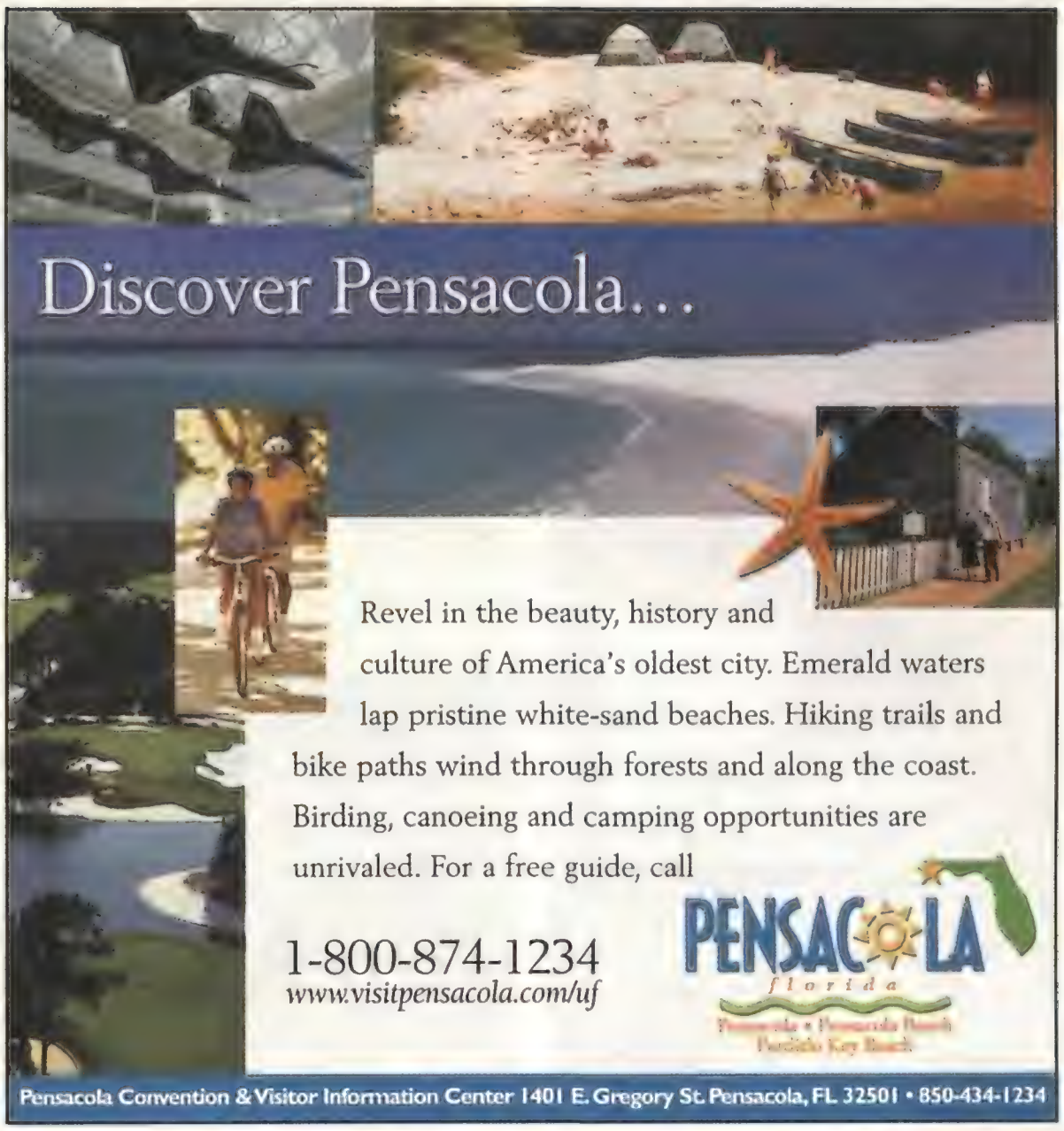
St. Augustine Ponte Vedra & The Beaches, Florida

www.floridastateparks.org). Tallahassee would not be occupied by Federal troops during the war, one of only two Southern capitals to claim that distinction.

The first action in Florida occurred on **Santa Rosa Island** 4 off Pensacola in October 1861, when Confederate troops crossed from the mainland under cover of darkness to surprise the Federal camp near Fort Pickens. The surprise worked, but a Union counterattack forced the Confederates to withdraw. The fort, now a part of Gulf Islands National Seashore (www.nps.gov/guis), and Santa Rosa Island's snowy white beaches are popular with vacationers.

Reenactments. At **Fort Clinch State Park** 1 Civil War Fort Garrisons held the first weekend of each month include black powder artillery demonstrations, marching drills and blacksmith demonstrations by historians. **Olustee Battlefield Historic State Park** 2 commemorates its battle every February in a reenactment with full-scale artillery, military drills, and living history demonstrations by more than 2,300 reenactors. A smaller exposition of Civil War artifacts and living history demonstrations is held in September. In the end of February through early March, **Natural Bridge Battlefield Historic State Park** 3 is the site of an annual reenactment of the 1865 Civil War battle which defeated the Union expedition that threatened Tallahassee from the south, the only Confederate capital east of the Mississippi which didn't fall into Union hands during the war.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Native American historic sites. Many descendants of Florida's present-day Native American population—the Miccosukee and the Seminole tribes—can trace their ancestry to those who fled to the Everglades after escaping the Seminole removal wars of the 1800s. Unlike their dealings with other tribes, the U.S. government could not force a surrender from the Florida Seminoles. Those who fought in those bloody battles are remembered at various sites where annual reenactments are held.

FLORIDA STATE PARKS

Native American reenactors, above and below

West of Orlando in Bushnell, the **Dade Battlefield Historic State Park** 1 (352-793-4781; www.dadebattlefield.com) is the site of the first battle of the Second Seminole War, where 180 Seminole warriors ambushed Major Francis Dade and his command of 107 U.S. soldiers on December 28, 1835. Annual living history reenactments are held on the weekend closest to the anniversary. The story continues at Fort Foster in **Hillsborough River State Park** 2 (813-987-6771; www.floridastateparks.org) just north of Tampa, where Army, Navy and militia reenactors gather the third Sunday of every month and describe garrison life in 1837. Every February, the park is home to the Fort Foster Rendezvous where soldiers and Native Americans in period attire show what life was like at a frontier fort. In Inverness, the fort at **Fort Cooper State Park** 3 (352-726-0315; www.floridastateparks.org) was the site of frequent Seminole attacks during its construction in 1836. On one occasion, 500 Indians stormed the fort. Reenactments are held during the annual Fort Cooper Days each March. Other noteworthy Miccosukee and Seminole annual events include the **Miccosukee Annual Indian Arts Fair** 4 (305-223-8380; www.evergladesgateway.com) every December at the Miccosukee Village west of Miami, and the **Seminole Tribal Fair** 5 (954-966-6300; www.evergladesgateway.com) every February in Hollywood.

FLORIDA STATE PARKS

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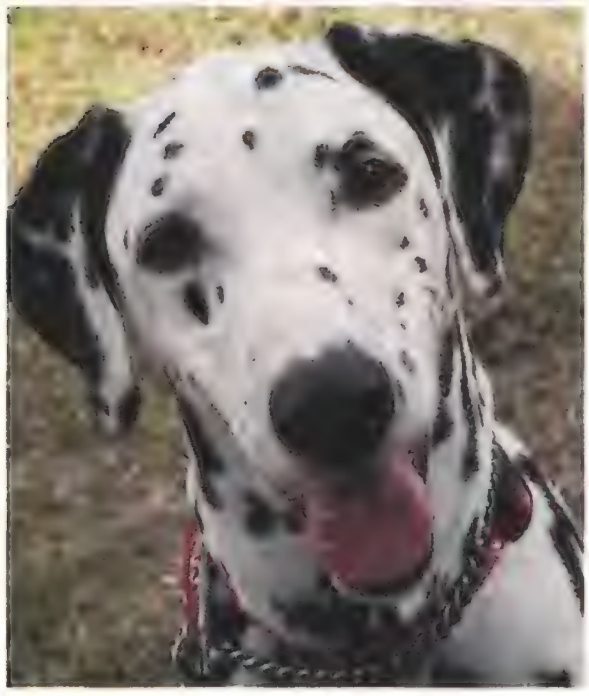

FORT WALTON BEACH MAIN STREET

Dog Daze, September

Offbeat Florida Festivals

Lisa Simundson

Ever communicate with a worm? It can be done, as any good worm grunter knows. Actually, the "grunts" that drive earthworms to the surface during the annual Worm Gruntin' Festival in Sopchoppy, near Tallahassee, are produced by dragging a piece of metal over a stake which is first pounded into the ground. The resulting vibrations bring the worms slithering from the soil, and whoever collects the most in 30 minutes, wins $50 and a set of worm gruntin' tools.

It's all part of Florida's wacky and wonderful calendar of events, the festivals that don't necessarily draw the biggest crowds but rank way up there in terms of sheer uniqueness. Add one of these to your vacation itinerary, and you're guaranteed an unforgettable taste of Florida's quirky side.

Weeki Wachee Swamp Festival, March

January

Frog Legs Festival, Fellsmere 18. Four days of the delectable "tastes just like chicken" treat, prepared every way imaginable. 772-571-9648, www.indianriverchamber.com.

Kumquat Festival, Dade City 13. Come to the Kumquat Capital of the World for a family-style celebration. 352-567-3769, www.dadecitychamber.org.

Florida Citrus Festival, Winter Haven 16. A host of competitions, including fresh citrus and citrus cooking, poultry, livestock and, of course, the Miss Florida Citrus pageant. 863-292-9810, www.citrusfestival.com.

February

Hoggetowne Medieval Faire, Gainesville 7. A Middle Age revival, featuring a talented troupe of actors, musicians and street performers and Old World games, arts, crafts, entertainment and feasting. 352-334-ARTS, www.gvlculturalaffairs.org

Ortona Cane Grinding, Ortona 22. Sugar cane grinding and cane syrup-making exhibits and sales. Sweet! 863-946-6025, www.gladesonline.com.

Florida Strawberry Festival, Plant City 15. Celebrate the strawberry harvest with homemade treats and lots of events. 813-752-9194, www.flstrawberryfestival.com.

Strawberry Folk Festival, Homestead 23. Enjoy a beautiful weekend at unique Fruit and Spice Park in rural Greater Miami with folk music, storytelling and strawberries. 305-247-5727, www.co.miamidade.fl.us/parks/Parks/fruit_spice.htm

Swamp Cabbage Festival, LaBelle 21. Annual festivities honoring the tasty meat of the sabal palm, known to gourmets as hearts of palm. http://members.aol.com/browne/scf.html

March

Weeki Wachee Swamp Festival, Weeki Wachee 11. Swamp-themed fun includes arts and crafts booths. 352-596-4996, www.coastalhernando.com/swampfest.

Hog Wild & Pig Crazy Bar-B-Que & Chili Cook-off, Lake City 4. A must-visit on the barbecue contest circuit, this two-day event also includes carnival rides, craft booths and live entertainment. 386-758-5450, www.springs-r-us.com/calendar

April

Catfish Festival, Crescent City 8. Fried catfish, alligator tail and swamp cabbage are among the delicacies enjoyed at this event, which also includes a catfish run and King Catfish parade. 386-698-2464, www.catfishfestival.com.

Worm Gruntin' Festival, Sopchoppy 3. Hundreds of earthworms show up for this annual event in the Apalachicola National Forest. 850-962-5282, www.sopchoppyflorida.com.

ROBERT SEIDLER

May

Zellwood Sweet Corn Festival, Zellwood 10. Local bands, corn shucking, eating contests and more corn than you can shake a stalk at. 407-886-0014, www.zellwoodsweetcornfest.org.

Isle of Eight Flags Shrimp Festival, Fernandina Beach 5. Shrimp boat tours, shrimp cook-offs and other seafood adventures. 904-261-3248, www.shrimpfestival.com.

June

Bostwick Blueberry Festival, Bostwick 6. This small country festival features a blueberry pancake breakfast and a blueberry cook-off. 386-328-2497, www.putnamcountyfl.com/Events/Festivals.

Worm Gruntin' Festival, April

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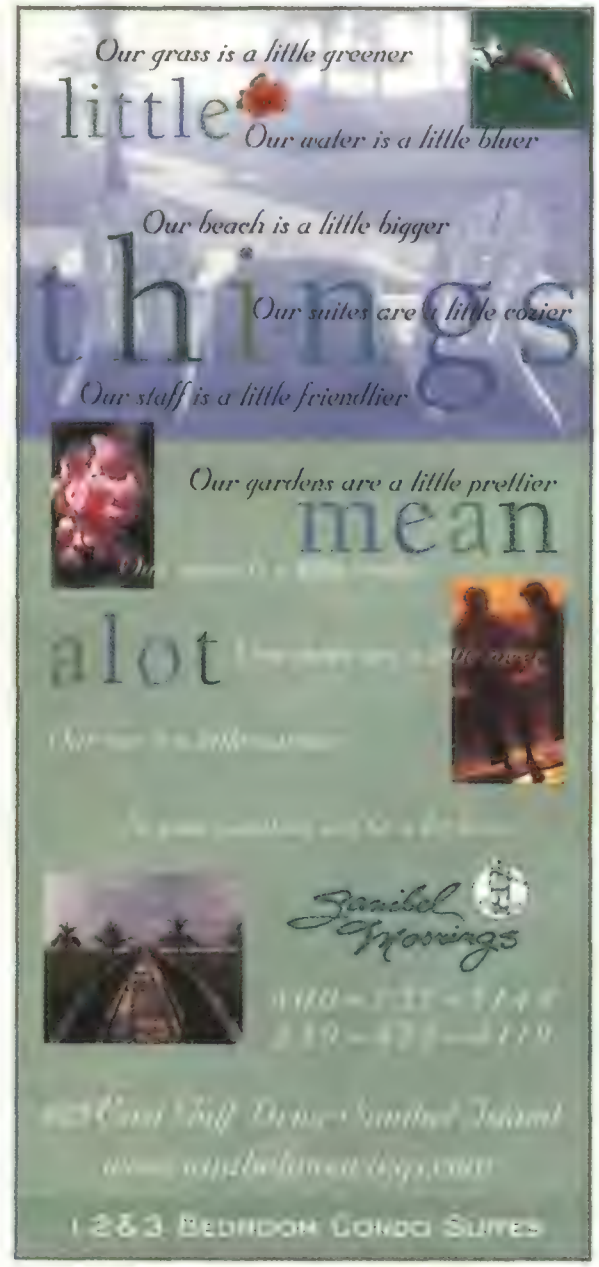
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July
Mango Mania, Pine Island 20. That succulent tropical fruit, the mango, is the star attraction during two days of tastings, contests and concerts. 941-283-4842, www.mangomaniafl.com.

August
Caladium Festival, Lake Placid 17. Budding gardeners and enthusiasts of these colorful plants will be dazzled at this annual three-day event, 863-465-4331, www.lpfla.com/events/caladium.htm

September
Dog Daze, Fort Walton Beach 2. Put on Fido's dancing shoes for some doggie square dancing. 850- 664-6246, www.fwbmainstreet.org/events.htm.

October
Boggy Bayou Mullet Festival, Niceville 1. Highlights include music, a mullet run, fried mullet and gator. 850-678-1615, www.niceville.org/mullet.html.

Cracker Storytelling Festival, Homeland 17. Listen to old Cracker tales, African-American fables and Native American legends. 863-284-4268, www.crackerstorytellingfestival.freeservers.com.

continued on page 32

DISCOVER

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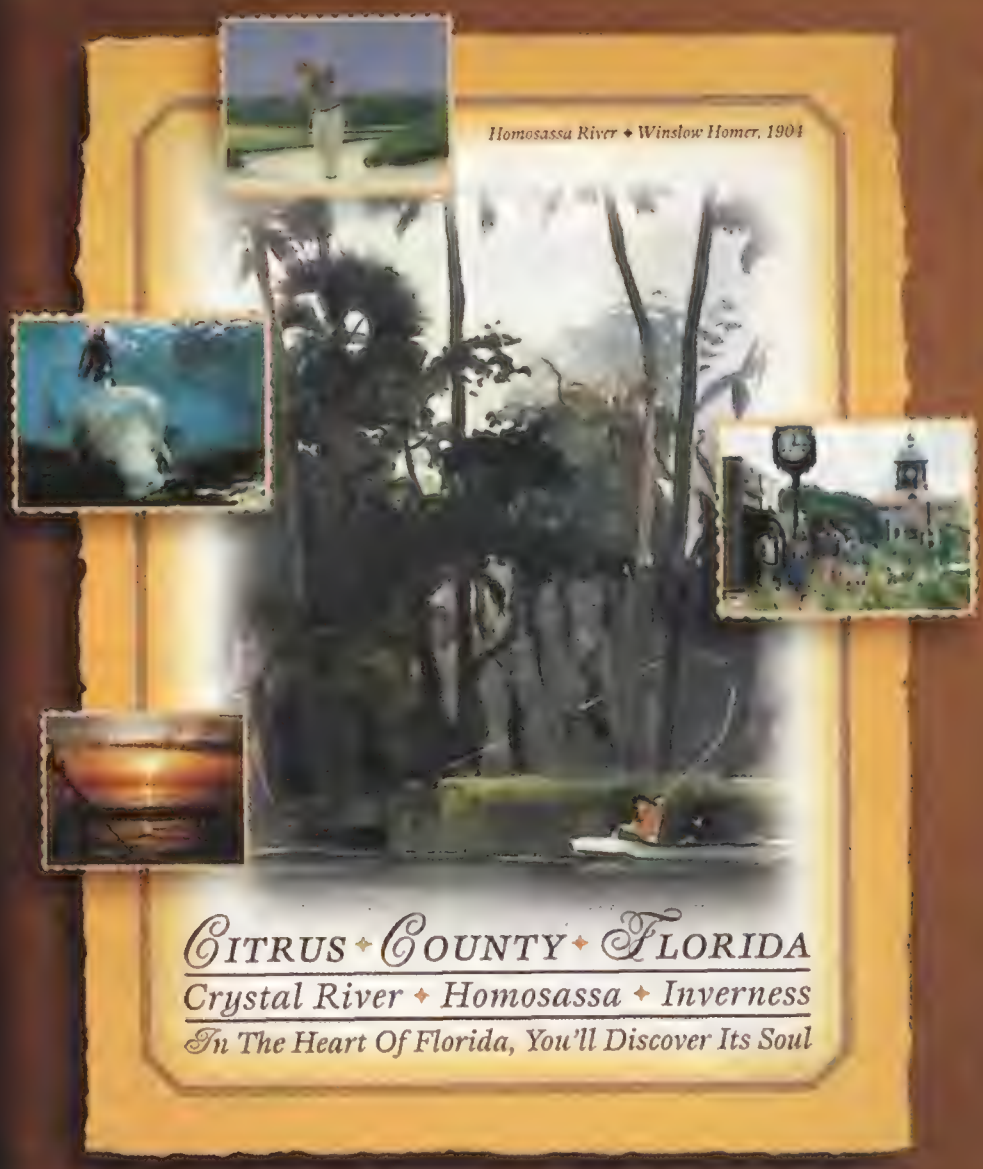
PASCO COUNTY

Rattlesnake Festival, October

October (cont'd)
Rattlesnake Festival, San Antonio 12. Snake shows, gopher races, reptile shows and foot races are all part of the fun. 352-588-4444, www.rattlesnakefestival.com.

November
Flapjack Festival, Land O' Lakes 14. You'll flip over this fest featuring free flapjacks and much more. 813-996-5522, www.centralpascochamber.com.

December
Santa Over the Rainbow, Dunnellon 9. Santa paddles up the Rainbow River at Rainbow Springs State Park on a lighted pontoon sleigh to welcome in holiday festivities. 352-489-8503, www.floridastateparks.org.



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Manatees:

Florida's Gentle Giants

Juliet Gill

Florida's manatee population, once on the brink of extinction, is slowly but surely on the mend, thanks to an enormous conservation effort on the part of wildlife officials, policymakers and concerned animal lovers. While their numbers increase, however, the need remains to protect these fascinating mammals.

Scientists estimate that Florida manatees have been enjoying the state's waterways for millions of years, long before humans discovered the turquoise seas and clear spring-fed rivers of the Sunshine State. For the past few decades, however, these gentle herbivores have shared marine space with increasing numbers of boaters and swimmers. These slow-moving seal-shaped mammals can reach up to 13 feet in length and weigh in at more than 3,000 pounds.

The passage of laws—such as the 1972 Marine Mammal Protection Act and the Endangered Species Act of 1973—laid the foundation for efforts to protect the manatee. When the Florida Marine Sanctuary Act was passed in 1978, the entire Sunshine State became a refuge and sanctuary for manatees, and important manatee marine areas were restricted to boat access in order to minimize interference. Recent aerial surveys of manatees have shown increases in their numbers—more than 3,200 were seen in a recent survey.

Today, visitors can spot manatees from a number of state and national parks and wildlife refuges. The **Homosassa Springs Wildlife State Park** 1 (352-628-5343), located north of Tampa and St. Petersburg, has an enclosed underwater observatory that allows visitors to "submerge" themselves in the world of the manatees. Open to the public year-round, the park showcases several resident manatees at the spring's headwaters and provides viewing areas for visitors to see wild manatees outside the park boundaries. From the observatory, animal-lovers can watch feedings, learn about the current "residents," or even adopt a manatee through the park's Save the Manatees Club's adoption hot line (800-432-JOIN; www.savethemanatee.org).

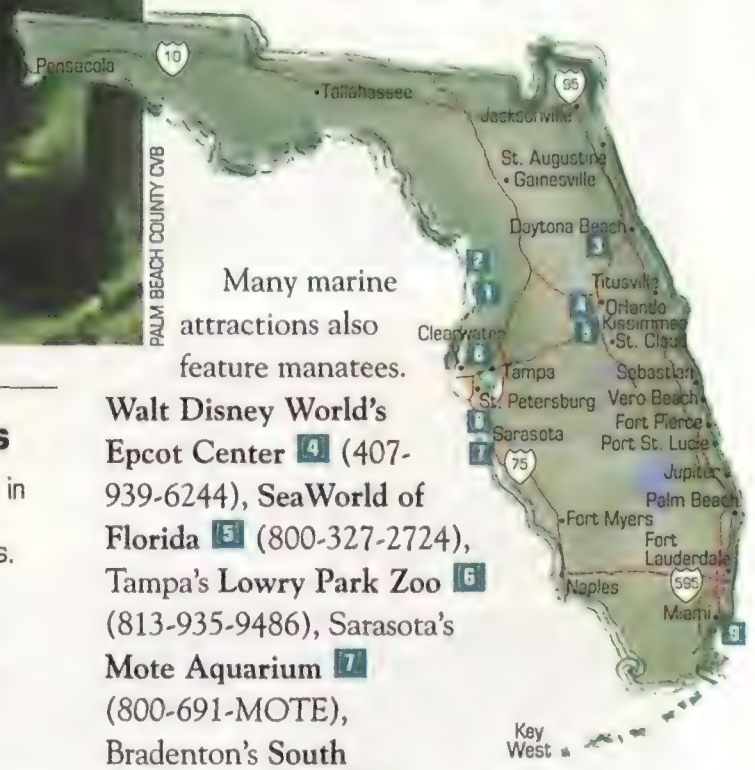
PALM BEACH COUNTY CVB

Manatee Dos and Don'ts

- Do observe safe boating and speed zone laws in manatee protection zones.
- Don't feed or provide fresh water to manatees.
- When snorkeling near manatees, don't chase them or separate mother and calf pairs.
- Do bring the kids to see the manatees and educate them from an early age to respect these gentle giants.
- Don't enter areas designated as "No Entry—Manatee Refuge."
- Post a proper lookout on your vessel when you are underway. More than half of Florida's manatees bear scars from encounters with propellers.
- Follow other manatee interaction/viewing guidelines on the Florida Fish and Wildlife Conservation Commission website at www.floridaconservation.org/psm.

North of Homosassa, the nine islands of the **Crystal River National Wildlife Refuge** 2 (352-563-2088) are located in the river's headwaters at Kings Bay. Each day, freshwater springs pump in about 600 million gallons of water that maintains an average temperature of 72 degrees Fahrenheit year round, making it a favorite spot for hundreds of manatees. During the winter, visitors can take guided swims to snorkel near the manatees, and boat cruises to spot them in the wild. As always, visitors are encouraged to follow the watchable wildlife guidelines so that the manatees are not harassed while they are trying to stay warm.

In Florida's St. Johns River region, the sparkling waters of **Blue Spring State Park** 3 (386-775-3663) are a favorite with manatees, especially during cooler winter months. Located near Orange City, the park also features manatee educational programs throughout the day.



Many marine attractions also feature manatees. **Walt Disney World's Epcot Center** 4 (407-939-6244), **SeaWorld of Florida** 5 (800-327-2724), Tampa's **Lowry Park Zoo** 6 (813-935-9486), Sarasota's **Mote Aquarium** 7 (800-691-MOTE), Bradenton's **South Florida Museum Parker Manatee Aquarium** 8 (941-746-4131) and the **Miami Seaquarium** 9 (305-361-5705) all have manatee rehabilitation or viewing centers that are open to visitors.

For more destination information, turn to page 38.

What's Going On

Ongoing
Adventure Kayaking Tours along Indian River Lagoon, St. Lucie River, Savannas Marsh, Manatee Observation & Education Center, Fort Pierce, 888-652-9257

January
Florida Manatee Festival, Crystal River, 352-795-3149

Manatee Festival, Blue Spring State Park, 386-775-3663

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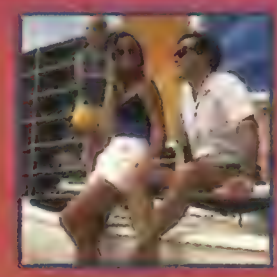

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Florida: Birthplace of National Wildlife Refuges

Juliet Gill

Pelican Island National Wildlife Refuge

Wildlife protection in the U.S. began one hundred years ago, thanks in part to one man's lifelong appreciation of Florida's magnificent natural beauty. Paul Kroegel moved to Florida from Germany in 1881, settling in Sebastian on the Central East coast. His home overlooked Pelican Island, named for the multitude of birds that congregated along its shores. The rookery was also patronized relentlessly by hunters, motivated by the high prices that pelican feathers could fetch on the international market.

By 1901, aghast at the slaughter of Florida's brown pelicans, the Florida Audubon Society hired Kroegel as a wildlife warden for Pelican Island to protect the birds. He quickly joined forces with a prominent ornithologist, Frank Chapman, to further the conservationist cause for Pelican Island.

They were resoundingly successful. On March 14, 1903, President Theodore Roosevelt signed an executive order that essentially made Pelican Island the first of what is today the U.S. National Wildlife Refuge (NWR) system. Paul Kroegel was hired as the first federal wildlife warden for the NWR system, receiving the princely sum of $12 a year to watch over the inhabitants of Pelican Island. He remained a resident of Sebastian until his death in 1948.

CELEBRATING A CENTURY of CONSERVATION

GEORGE NELSON/USFWS

Warden Kroegel

Today, the NWR system has grown to include 540 Refuges nationwide that comprise nearly 95 million acres, specifically set aside for the protection of wildlife. Not all are open to visitors—their objective, of course, is to provide refuge for wildlife. In Florida, three million people visited those of the state's 28 Refuges that are open to the public. Between the refuges and Florida's national fish hatchery, there are almost a million acres of space for indigenous species like egrets, spoonbills, loggerhead turtles, bobcats, manatees and alligators.

Congress has declared 2003 the Year of the National Wildlife Refuge, and everyone is invited to the centennial celebrations.

Popular Florida NWRs.

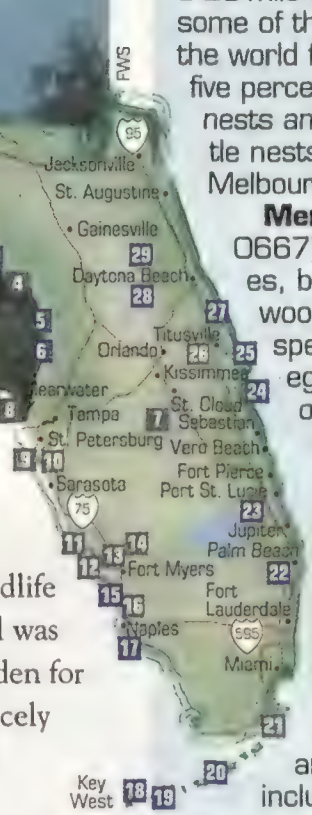
St. Marks NWR 2 (850-925-6121), a unique refuge established in 1931 to provide wintering habitat for migratory birds, encompasses 68,000 acres between Wakulla, Jefferson, and Taylor counties along the Gulf Coast of northwest Florida. With coastal marshes, islands, tidal creeks and estuaries of seven north Florida rivers, the refuge is home to a diverse community of plant and animal life and the St. Marks Lighthouse, built in 1832 and still in use today.

J.N. "Ding" Darling NWR 15 (239-472-1100), on Sanibel Island, encompasses the Caloosahatchee NWR, Island Bay NWR, Matlacha Pass NWR and Pine Island NWR. Threatened or endangered species here include the eastern indigo snake, American alligators and crocodiles, bald eagles, wood storks, peregrine falcons, West Indian manatees and Atlantic loggerhead turtles.

The 900 acres of the **Archie Carr NWR** 25 (772-562-3909, ext. 258), found along a 20-mile stretch of Florida's east coast, are some of the most important nesting sites in the world for loggerhead sea turtles. Twenty-five percent of all loggerhead sea turtle nests and 35 percent of all green sea turtle nests, in the United States occur from Melbourne Beach to Wabasso Beach.

Merritt Island NWR 27 (321-861-0667) is 140,000 acres of salt marshes, beach, scrub pinelands, and hardwood hammocks. Home to over 330 species of birds including herons, egrets, scrub jays and 23 species of waterfowl, Merritt Island is also a great place to spot other wildlife such as bobcats, alligators, and river otters in their natural environment.

Also operated by the U.S. Fish & Wildlife Service is the **Welaka National Fish Hatchery** 29 (386-467-2374) in Northeast Florida. In its 41 ponds, this warm water hatchery annually raises 4.5 to 5 million fish, including striped bass, gulf sturgeon and other species vital to the fishery resources of Florida, Georgia, Alabama and the coastal United States. Visitors can tour the aquarium and see the abundant wildlife in the area.



Florida NWRs

25	Archie Carr NWR	28	Lake Woodruff NWR
22	A.R.M. Loxahatchee NWR	3	Lower Suwannee NWR
14	Caloosahatchee NWR	13	Matlacha Pass NWR
4	Cedar Keys NWR	27	Merritt Island NWR
6	Chassahowitzka NWR	19	National Key Deer NWR
5	Crystal River NWR	10	Passage Key NWR
21	Crocodile Lake NWR	24	Pelican Island NWR
9	Egmont Key NWR	12	Pine Island NWR
16	Florida Panther NWR	8	Pinellas NWR
20	Great White Heron NWR	26	St. Johns NWR
23	Hobe Sound NWR	2	St. Marks NWR
11	Island Bay NWR	1	St. Vincent NWR
15	J.N. "Ding" Darling NWR	17	Ten Thousand Islands NWR
18	Key West NWR	29	Welaka National Fish Hatchery
7	Lake Wales Ridge NWR		

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WAKULLA

What's Going On

July
Seahorse Key Lighthouse Open House, Cedar Keys NWR, 352-493-0238

September
Coastal Awareness Day, St. Marks NWR, 850-925-6121

October
National Wildlife Refuge Week celebrations, A.R.M. Loxahatchee NWR, 561-734-8303; and Hobe Sound NWR, 561-546-6141

Ding Darling Days in celebration of National Wildlife Refuge Week, J.N. "Ding" Darling NWR, 239-472-1100

Monarch Butterfly Festival, St. Marks NWR, 850-925-6121

February
Everglades Day, A.R.M. Loxahatchee NWR, 561-734-8303

March 14-16 marked the official birthdate of the NWR system, with festivities held at Sebastian's **Riverview Park** and **Pelican Island NWR** 24 to commemorate the occasion. A Presidential Proclamation officially kicked off the Year of the NWR; the Pelican Island Centennial Trail and Observation Tower were officially opened; and the U.S. Postal Service unveiled the new Pelican Island National Wildlife postage stamp.

Other Florida Refuges are keeping the party going, with festivities scheduled for the rest of the year. For information on Florida's 28 Refuges, visit http://southeast.fws.gov and click on "Florida."

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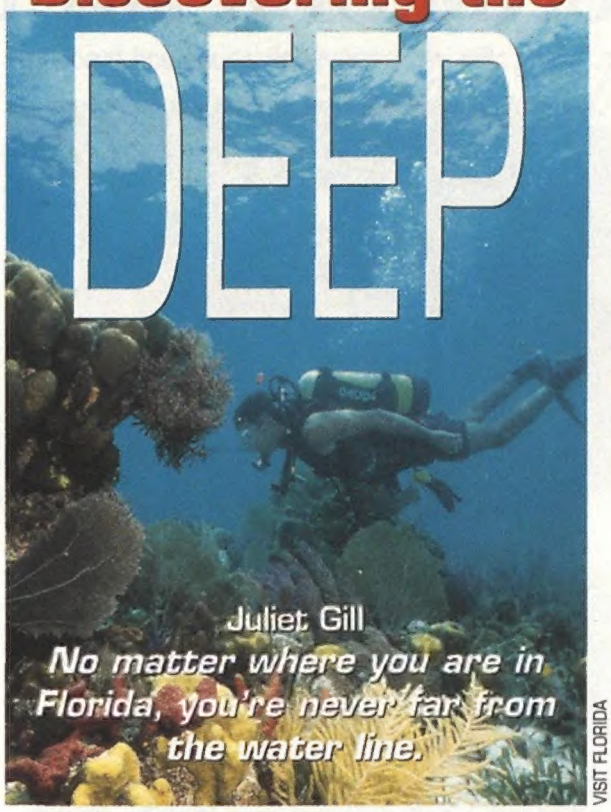

VISIT FLORIDA

Teeming coral reefs, lush estuaries, lazy rivers, tranquil lakes and bubbling natural springs emerge in nearly every nook and cranny, which means there are plenty of opportunities to immerse yourself—literally and figuratively—into a marine learning experience like no other.

Underwater Explorations

Those looking for a glimpse into the state's rich seafaring past can visit one of the many Underwater Archaeological Preserves (UAP), managed by the Florida Division of Historical Resources (DHR). These living museums in the sea offer diving on shipwrecks, following underwater trails, and sharing space with vivid marine life. Each site offers an underwater plaque to explain the experience, and brochures and laminated underwater guides are available from local dive shops. Generally free of charge to the public, the parks are open year-round. For information on any of the UAPs, contact the DHR at 850-245-6300 or visit http://dhr.dos.state.fl.us/bar/uap.

Near Pensacola can be found the site of America's oldest existing battleship, the ***USS Massachusetts*** 1. Officially commissioned in 1896 and scuttled in 1921, the 350-foot vessel serves as an enormous artificial reef. On the east coast, the first Preserve, opened to the public in 1987, is the ***Urca de Lima*** **UAP** 9, located off Fort Pierce. Named for one of the flat-bottomed Spanish storeships that sank during a hurricane in 1715, the wreck site is found on the first offshore coral reef, about 200 miles from shore. Another fascinating shipwreck is located in waters off the Florida Keys. The Dutch vessel *San Pedro* left Havana, Cuba, for Spain in 1733, but only made it as far as **Islamorada** 15. Today, the site is one of Florida's oldest artificial reefs, and picturesque tropical marine life decorates the shipwreck. The Keys is also the site of the first undersea park created in the U.S. Key Largo's **John Pennekamp Coral Reef State Park** 14 (305-451-1202) encompasses 178 nautical square miles of coral reefs, seagrass beds and mangrove swamps. These areas, established to protect the only living coral reef in the continental U.S., can be explored by snorkeling, scuba and glass bottom boat tours.

Learning Centers

Landlubbers can get up close and personal with underwater life at one of Florida's many aquariums. In the Panhandle, **Florida's Gulfarium** 2 (850-243-9046) in Fort Walton Beach—the oldest continuously operated marine show aquarium in the world—is home to dolphins, sea lions, penguins, alligators, sharks, moray eels and sea turtles. Across the state, south of St. Augustine, the world's first oceanarium was constructed in 1938. Built on Atlantic coastal dunes and consisting of huge steel tanks filled with seawater, the Marine Studio was designed for the filming of marine life and later became **Marineland of Florida** 3

The Florida Marine Research Institute

Part of the Florida Fish & Wildlife Conservation Commission, the Florida Marine Research Institute helps safeguard Florida's precious ecosystems. Visitors to the FMRI website—www.floridamarine.org—can find invaluable links to state parks, research institutions and conservation-themed attractions throughout the state. The website also offers updated information about upcoming programs, education opportunities and current news regarding Florida's marine wildlife and habitats. 850-488-1484, www.flheritage.com/maritime

What's Going On

Ongoing
Family Fun Fests, First Sunday of every month, Dante Fascell Visitor Center, Biscayne National Park. 305-230-7275, www.nps.gov/bisc

May
Ocean Fest Dive Show & Ocean Festival, Lauderdale-by-the-Sea, 800-327-8150

June
Kids' Fishing Clinic, Cape Canaveral (June 7), Fernandina Beach (June 21), 850-488-0331

June-July
Guided Turtle Walks, John D. MacArthur Beach State Park, North Palm Beach, 561-624-6952, www.floridastateparks.org

(904-460-1275), where dolphin shows and marine education continue today.

Down the coast, the new **Marine Science Center** 4 (386-304-5545) in Volusia County's Lighthouse Point Park at Ponce Inlet is a rehabilitation center for injured marine turtles, and an important environmental education center. Near Vero Beach, the **Environmental Learning Center** 8 (561-589-5050) is located on Wabasso Island, a 51-acre island in the Indian River Lagoon, the nation's most diverse estuary.

On Florida's west coast, Tampa's **Florida Aquarium** 6 (813-273-4000), showcases the state's fragile ecosystems through a series of living galleries that include wetlands, bays and beaches, and coral reefs; a new exhibition that features ocean predators; and the unique opportunity to swim with sharks. The **Clearwater Marine Aquarium** 5 (888-239-9414) is a non-profit working aquarium dedicated to public education, marine research, and the rescue, rehabilitation and release of injured or sick whales, dolphins, otters and sea turtles. In Sarasota, the **Mote Aquarium** 7 (941-388-4441) has eco-tours, a touch tank, 10 new exhibits and an interactive Sea Cinema. Fort Myers' **Imaginarium** 10 (941-337-3332) has octopus and baby alligators.

In southeast Florida, the **Miami Seaquarium** 11 (305-361-5705) provides an extensive educational experience for the whole family. Nearby on Key Biscayne, the **Marjory Stoneman Douglas Biscayne Nature Center** 12 (305-361-6767) is a nature center with snorkeling trips and nature walks. South of Miami, **Biscayne National Park** 13 (305-230-7275) is 95% underwater, its coral reef explorable by diving, snorkeling, canoeing, kayaking and on glass bottom boat tours. Built in 1934, the **Key West Aquarium** 17 (305-296-2051) today has native sea turtles, sharks, eels, barracuda and parrotfish. On Grassy Key, visitors to the **Dolphin Research Center** 16 (305-743-8559) can see Atlantic bottlenose dolphins and California sea lions.

For more destination information, turn to page 38.

Visitor Information and Resources

Here is a selected list of Florida information sources. Many offer websites, publications and brochures featuring nature, history and cultural activities.

VISIT FLORIDA

PO Box 1100. Tallahassee, 32302-1100. Visitor Information: 888-7FLAUSA; Headquarters: 850-488-5607. www.flausa.com

Florida Department of Agriculture & Consumer Services: Division of Forestry—3125 Conner Blvd., MS-C25, Tallahassee, 32399-1650. 850-488-4274; fax 850-488-0863. www.fl-dof.com

Florida Department of Environmental Protection: Division of Recreation & Parks—3900 Commonwealth Blvd., MS 536 Tallahassee, 32399-3000. 850-245-2100; fax 850-245-2159. www.floridastateparks.org

Florida Department of State: Division of Cultural Affairs—1001 DeSoto Park Blvd.,Tallahassee, 32301. 850-245-6470; fax 850-245-6492. www.dos.state.fl.us/dca

Florida Department of State: Division of Historical Resources—530 S Bronough St., Tallahassee, 32399-0250. 850-245-6300; fax 850-245-6435. www.dhr.dos.state.fl.us

Florida Fish and Wildlife Conservation Commission—620 S Meridian St., Tallahassee, 32399. 850-488-4676; fax 850-488-1961. www.floridaconservation.org

National Forests in Florida—325 John Knox Rd., Ste. F-10, Tallahassee, 32303. 850-523-8500. www.r8web.com/florida

National Park Service Southeast Region—100 Alabama St. SW, 1924 Building, Atlanta, GA 30303. 404-562-3100. www.nps.gov

Office of Greenways & Trails—3900 Commonwealth Blvd., MS 795, Tallahassee, 32399-3000. 850-245-2052; fax 850-245-2082. www.myflorida.com

US Fish & Wildlife Service Wildlife Inspectors—10426 NW 31 Terr., Miami, 33172. 305-526-2620. www.fws.gov

OTHER RESOURCES

Florida Association of Convention & Visitors Bureaus—335 Beard St., Tallahassee, 32303. 850-222-6000; fax 850-222-6002. www.facvb.org

Florida Association of Museums—PO Box 10951, Tallahassee, 32302. 850-222-6028; fax 850-222-6112. www.flamuseums.org

Florida Association of RV Parks & Campgrounds—1340 Vickers Rd., Tallahassee, 32303-3041. 850-562-7151; fax 850-562-7179. www.floridacamping.com

Florida Attractions Association—1114 N. Gadsden, Tallahassee, 32303. 850-222-2885; fax 850-222-3970. www.floridaattractions.org

Florida Bed & Breakfast Inns—PO Box 6187, Palm Harbor, 34684. 800-524-1880; fax 281-499-1374. www.floridainns.com

Florida Hotel & Motel Association—PO Box 1529, Tallahassee, 32302. 850-224-2888; fax 850-222-3462. www.flahotel.com

Florida International Chamber of Commerce—2198 Princeton St., Sarasota, 34237. 941-953-5939; fax 941-953-2828. www.ficoc.org

Florida Professional Paddlesports Association—PO Box 1764, Arcadia, 34265. 863-494-1215; fax 863-494-4391. www.paddleflausa.com

Florida Restaurant Association—230 South Adams St., Tallahassee, 32301. 850-224-2250; fax 850-224-9213. www.flra.com

Florida Retail Federation—PO Box 10024, Tallahassee, 32302-2024. 850-222-4082; fax 850-561-6625. www.frf.org

Florida Superior Small Lodging—1809 Silver Valley Ct., Apopka, 32712. 407-880-1707; fax 407-884-1302. www.superiorsmalllodging.com

Florida Trail Association—5415 SW 13 St., Gainesville 32608. 800-343-1882; fax 352-378-4550. www.florida-trail.org

Hospitality Industry Association—PO Box 14032, St. Petersburg 33733. 727-323-3023; fax 727-321-1332. www.hiabenefits.com

Seminole Tribe of Florida—6300 Stirling Rd., Hollywood, 33024. 954-966-6300; fax 954-967-3429 www.seminoletribe.com

Travel South USA—3400 Peachtree Rd. NE, Atlanta, GA 30326. 404-231-1790; fax 404-231-2364. www.travel-south.com

CAR RENTALS

Alamo Rent A Car—800-GO-ALAMO

Dollar Rent A Car—800-800-1000

CENTRAL

Central Florida Visitors & Convention Bureau—PO Box 8040, Cypress Gardens, 33884. FL, US & Canada 800-828-7655; 863-298-7565; fax 863-298-7564. www.sunsational.org

Hardee County Chamber of Commerce—PO Box 683, Wauchula, 33873. 863-773-6967

Highlands County Convention & Visitors Bureau—PO Box 2001, Sebring, 33871-4686. 863-385-8448; fax 863-385-8810.

Kissimmee-St. Cloud Convention & Visitors Bureau—PO Box 422007, Kissimmee, 34742-2007. 407-847-5000; fax 407-847-0878. www.floridakiss.com

VISIT FLORIDA

Key Deer

Lake County Dept. of Economic Development & Tourism—20763 US Hwy 27, Groveland, 34736. 352-429-3673; fax 352-429-4870. www.lakecountyfl.com

Ocala/Marion County Chamber of Commerce—110 E Silver Springs Blvd, Ocala, 34470. 352-629-8051; fax 352-629-7651.

Orlando/Orange County Convention & Visitors Bureau—6700 Forum Dr., Ste. 100, Orlando, 32821-8017. 407-363-5800; fax 407-370-5001. www.orlandoinfo.com

Seminole County Convention & Visitors Bureau—1230 Douglas Ave., Ste. 116, Longwood, 32779. FL, US & Canada 800-800-7832; 407-665-2900; fax 407-665-2920. www.visitseminole.com

Sumter County Economic Development Council—107 Bushnell Plaza, Ste. 10, Bushnell, 33513. 352-793-3003; fax 352-793-2339.

CENTRAL EAST

Daytona Beach Area Convention & Visitors Bureau—PO Box 910, Daytona Beach, 32115-0910. 800-544-0415; 386-255-0415; fax 386-255-5478. wwww.daytonabeach.com

Florida's Space Coast Office of Tourism—8810 Astronaut Blvd., Ste. 102, Cape Canaveral, 32920. 321-868-1126; fax 321-868-1139. www.space-coast.com

Indian River County Chamber of Commerce—1216 21 St., Vero Beach, 32960. 772-567-3491; fax 772-778-3181. www.indianriverchamber.com

Okeechobee County Tourist Development Council—55 S Parrot Ave., Okeechobee, 34974. 800-871-4403; 863-763-3959; fax 863-763-3531

St. Lucie County Tourist Development Council—2300 Virginia Ave., Fort Pierce, 34982. US & Canada 800-344-TGIF; 772-462-1535; fax 772-462-2132. www.visitstluciefla.com

West Volusia Tourism Advertising Authority—101 N Woodland Blvd, Ste. A308, DeLand, 32720. 800-749-4350; 386-734-0575; fax 386-738-3569. www.stjohnsrivercountry.com

CENTRAL WEST

Citrus County Tourist Development Council—3600 W Sovereign Path, Ste. 114, Lecanto, 34461. FL & US 800-587-6667; 352-527-5223; fax 352-527-5317. www.visitcitrus.com

Hernando County Tourist Development Council—26 S Brooksville Ave., Brooksville, 34601. 800-601-4580; 352-754-4405; fax 352-754-4406. www.co.hernando.fl.us/tourdev

Pasco County Tourist Development Council—7530 Little Rd., Ste. 340, New Port Richey, 34654. 800-842-1873; 727-847-8990; fax 727-847-8021. www.pascocounty.com/govt

St. Petersburg/Clearwater Area Convention & Visitors Bureau—14450 46 St. N, Ste.108, Clearwater, 33762. 727-464-7200; fax 727-464-7222. ww.floridasbeach.com

Tampa Bay Convention & Visitors Bureau—400 N Tampa St., Ste. 2800, Tampa, FL 33602. FL, US & Canada 800-826-8358; 813-223-1111; fax 813-229-6616. www.visittampabay.com

NORTH CENTRAL

Alachua County Visitor & Convention Bureau—30 E University Ave., Gainesville, 32601. 352-374-5260; fax 352-338-3213. www.visitgainesville.net

Columbia County Tourist Development Council—PO Box 1847, Lake City, 32056-1847. 877-746-4778; 386-758-1312; fax 386-758-1311. www.springs-r-us.org

Dixie County Chamber of Commerce—PO Box 547, Cross City, 32628. 352-498-5454; fax 352-498-2601

Gadsden County Chamber of Commerce—208 N Adam St., Quincy, 32351. 800-627-9231; 850-627-9231; fax 850-875-3299. www.gadsencc.com

Gilchrist County Chamber of Commerce—220 S Main St., Trenton, 32693. 352-463-3467; fax 352-463-3469. www.gilchristcounty.net

Hamilton County Tourist Development Council—PO Box 1056, Jasper, 32052. 386-792-6828; fax 386-792-0730.

Jefferson County Economic Development Council—1475 S Jefferson St., Moticello, 32344. 850-997-6559; fax 850-997-7229.

Lafayette County Chamber of Commerce—PO Box 416, Mayo, 32066. 386-294-2705; fax 386-294-1442.

Madison County Tourist Development Council—105 N Range St., Madison, 32340. 850-973-2788; fax 850-973-8864. www.madisonfl.org

Nature Coast Business Development Council—PO Box 1112, Bronson, 32621-1112. 352-486-5470; 352-486-5471. www.naturecoast.org

North Florida Regional Chamber of Commerce—PO Box 576, Starke, 32091. 904-964-5278; fax 904-964-2863. www.northfloridachamber.com

Suwannee County Tourist Development Council—PO Box C, Live Oak, 32064. 386-362-3071; fax 386-362-4758. www.suwanneechamber.com

Tallahassee Area Convention & Visitors Bureau—106 E Jefferson St., Tallahassee, 32301. 800-628-2866; 850-413-9200; fax 850-487-4621. www.seetallahassee.com

Taylor County Tourism Development Council—PO Box 449, Perry, 32348. 850-584-5627; fax 850-584-8030. www.steinhatcheetoperry.com

Wakulla County Tourist Development Council—PO Box 67, Panacea, 32346. 850-984-2966; fax 850-984-2967 .

NORTHEAST

Amelia Island Tourist Development Council—961687 Gateway Blvd., Ste. G, Amelia Island, 32034. US 800-2-AMELIA; 904-261-3248; fax 904-261-2440. www.ameliaisland.org

Baker County Tourist Development Council—PO Box 1701, MacClenny, 32063. 904-259-3187

Clay County Chamber of Commerce—1734 Kingsley Ave., Orange Park, 32073. 904-264-2651; fax 904-264-0070. www.claychamber.org

Flagler County Tourist Development Council—20 Airport Rd., Bunnell, 32110. 386-437-0106; fax 386-437-5700. www.flaglerchamber.org

Jacksonville & the Beaches Convention & Visitors Bureau—550 Water St., Ste. 1000, Jacksonville, 32202. US & Canada 800-733-2668; 904-798-9111; fax 904-798-9103. www.visitjacksonville.com

Putnam County Chamber of Commerce—PO Box 550, Palatka, 32178-0550. 386-328-1503; fax 386-328-7076. www.putnamcountychamber.org

St. Augustine, Ponte Vedra and the Beaches Visitor & Convention Bureau—88 Riberia St., Ste. 400, St. Augustine, 32084. 904-829-1711; fax 904-829-6149. www.oldcity.com

NORTHWEST

Apalachicola Bay Chamber of Commerce—99 Market St., Ste. 100, Apalachicola, 32320. 850-653-9419; fax 850-653-8219. www.baynavigator.com

Beaches of South Walton—PO Box 1248, Santa Rosa Beach, 32459-1248. 800-822-6877; 850-267-1216; fax 850-267-3943. www.beachesofsouthwalton.com

Calhoun County Chamber of Commerce—20816 Central Ave. E, Blountstown, 32424. 850-674-4519; fax 850-674-4962. www.calhounco.org

Emerald Coast Convention & Visitors Bureau—1540 Miracle Strip Pwky. SE, Fort Walton Beach, 32549-0609. US & Canada 800-322-3319; 850-651-7131; fax 850-651-7149. www.destin-fwb.com

Gulf County Tourist Development Council—1000 Cecil G. Costin Sr. Blvd., Port St. Joe, 32456. 850-229-7800; fax 850-229-2458. www.visitgulf.com.

Holmes County Development Commission & Chamber of Commerce—PO Box 779, Bonifay, 32425. 850-547-4682; fax 850-547-4206.

Jackson County Chamber of Commerce—PO Box 130, Marianna, 32447. 850-482-8061; fax 850-482-8002. www.jcflchamber.com

Liberty County Chamber of Commerce—PO Box 523, Bristol, 32321. 850-643-2359; fax 850-643-3334.

Panama City Beach Convention & Visitors Bureau—PO Box 9473, Panama City, 32417-9473. 800-PCBEACH; 850-233-5070; fax 850-233-5072. www.800pcbeach.com

Pensacola Convention & Visitor Information Center—1401 E Gregory St., Pensacola, 32501. US 800-874-1234; 850-434-1234; fax 850-432-8211. www.chamber.pensacola.fl.us

Santa Rosa County Tourist Development Council—PO Box 5430, Navarre, 32566-0430. 850-939-2691; fax 850-939-0085.

Washington County Tourist Development Council—PO Box 450, Chipley, 32428. 850-535-9779; fax 850-638-0758. www.thewtdc.com

SOUTHEAST

Florida Keys & Key West Tourist Council—1201 White St., Ste. 102, Key West, 33040. 800-648-5510; 305-296-1552; fax 305-296-0788. www.fla-keys.com

Greater Fort Lauderdale Convention & Visitors Bureau—1850 Eller Dr., Ste. 303, Fort Lauderdale, 33316. US 800-227-8669; 954-765-4466; fax 954-765-4442. www.sunny.org

Greater Miami Convention & Visitors Bureau—701 Brickell Ave., Ste. 2700, Miami, 33131. FL, US & Canada 800-933-8448; 305-539-3000; fax 305-539-2985. www.miamiandbeaches.com

Palm Beach County Convention & Visitors Bureau—1555 Palm Beach Lakes Blvd., West Palm Beach, 33401-2373. FL, US & Canada 800-833-5733; 561-471-3995; fax 561-471-3990. www.palmbeachfl.com

Stuart/Martin County Chamber of Commerce—1650 S Kanner Hwy, Stuart, FL 34994. FL 800-524-9704; 772-287-1088; fax 772-220-3437. www.goodnature.org

SOUTHWEST

Bradenton Area Convention & Visitors Bureau—PO Box 1000, Bradenton, 34206. US & Canada 800-822-2017; 941-729-9177; fax 941-729-1820. www.flagulfislands.com

Charlotte Harbor & The Gulf Islands Tourist Development Council—1600 Tamiami Trail, Ste. 100, Port Charlotte, 33948. 941-743-1900; fax 941-743-2245. www.pureflorida.com

Clewiston Chamber of Commerce—544 W Sugarland Hwy., Clewiston, 33440. 863-983-7979; fax 863-983-7108. www.clewiston.org

DeSoto County Chamber of Commerce—16 S Volusia Ave., Arcadia, 34266. 863-494-4033; fax 863-494-3312. www.desotochamber.net

Glades County Chamber of Commerce—998 US 27, Moore Haven, 33471. 863-946-0440; fax 863-946-2282. www.gladesonline.com

Greater Naples, Marco Island & the Everglades Convention & Visitors Bureau—3050 N Horseshoe Dr., Ste. 210, Naples, 34104. 239-403-2384; fax 239-434-5066. www.classicflorida.com

Lee Island Coast Visitor & Convention Bureau—2180 W First St., Ste. 100, Fort Myers, 33901. FL, US & Canada 800-237-6444; 239-338-3500; fax 239-334-1106. www.leeislandcoast.com

Sarasota Convention & Visitors Bureau—655 N Tamiami Trail, Sarasota, 34236. FL 800-800-4038; 941-955-0991; fax 941-951-2956. www.sarasotafl.org

DISCOVER

Marie Selby Botanical Gardens– Explore a spectacular display of rare orchids and bromeliads in this tropical oasis on Sarasota Bay. Open daily 10-5. 811 S. Palm Ave., Sarasota. 941-366-5731; fax 941-366-9807. www.selby.org

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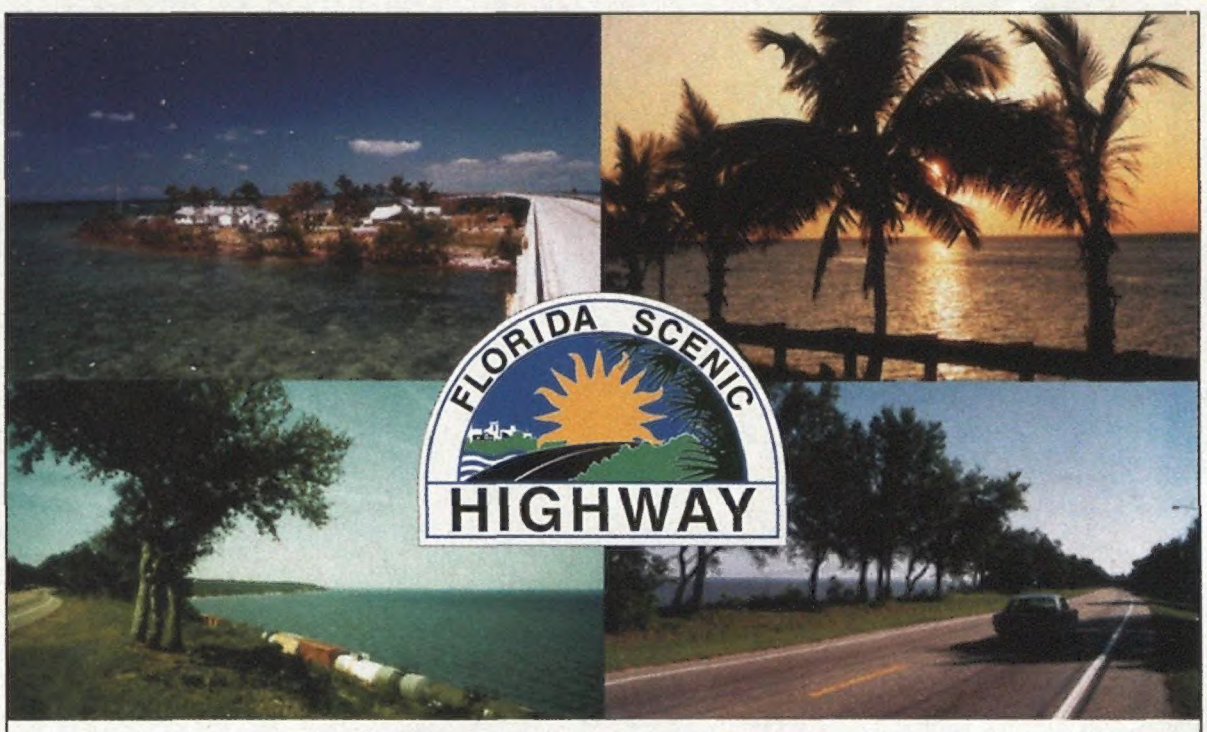

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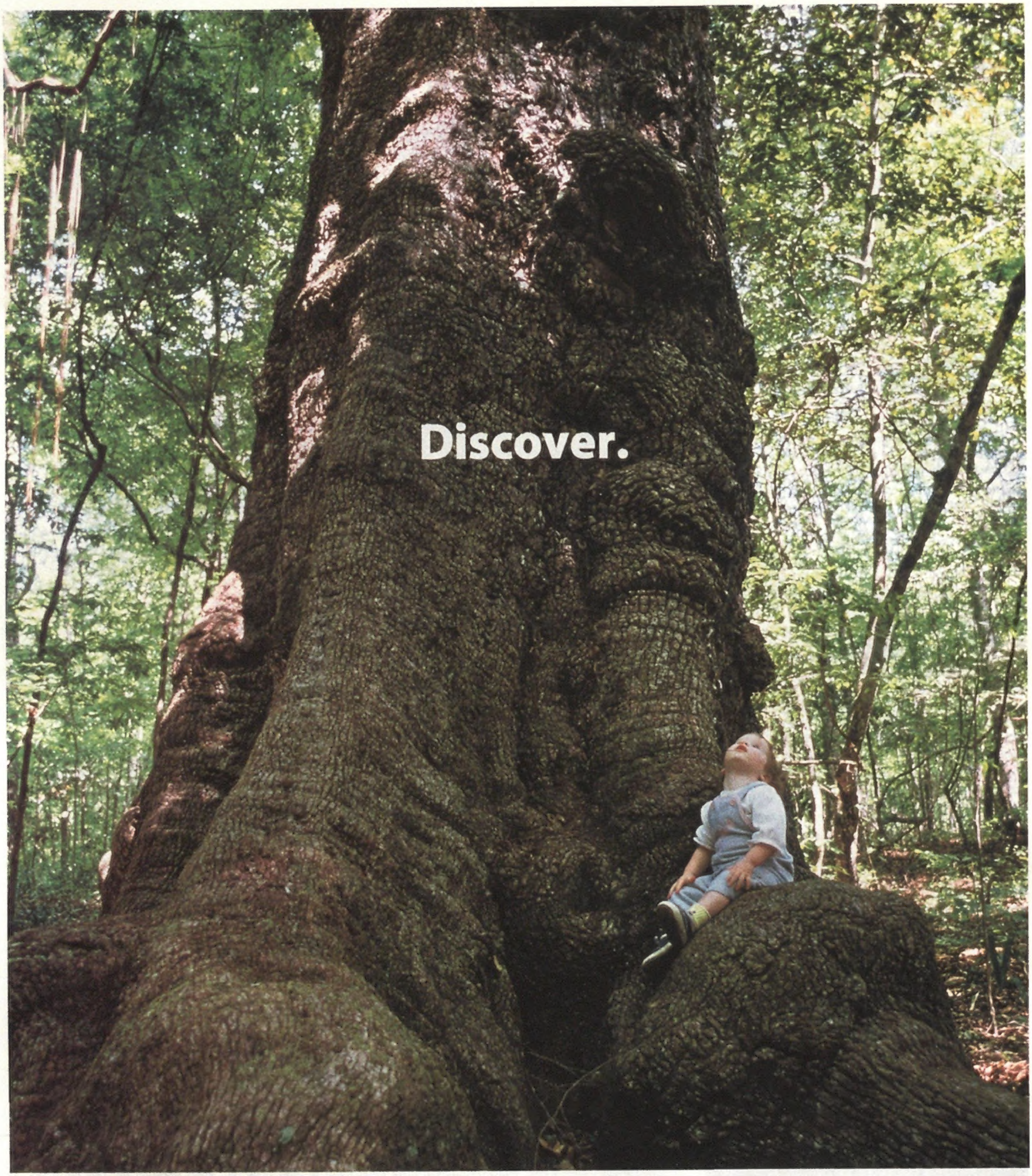
For more information, write the State Scenic Highway Program Coordinator, Florida Department of Transportation, 605 Suwannee Street, MS 37, Tallahassee, Florida 32399-0450 or visit our web site at www11myflorida.com/publicinformationoffice/scenichighway/



For free information write to: Florida Park Service, 3900 Commonwealth Blvd. MS 536, Tallahassee, FL 32399-3000, call (850) 245-2157 or visit our website at **www.floridastateparks.org**. To make a reservation at a Florida State Park, call (800) 326-3521 or visit **www.reserveamerica.com**.

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